IDG .com

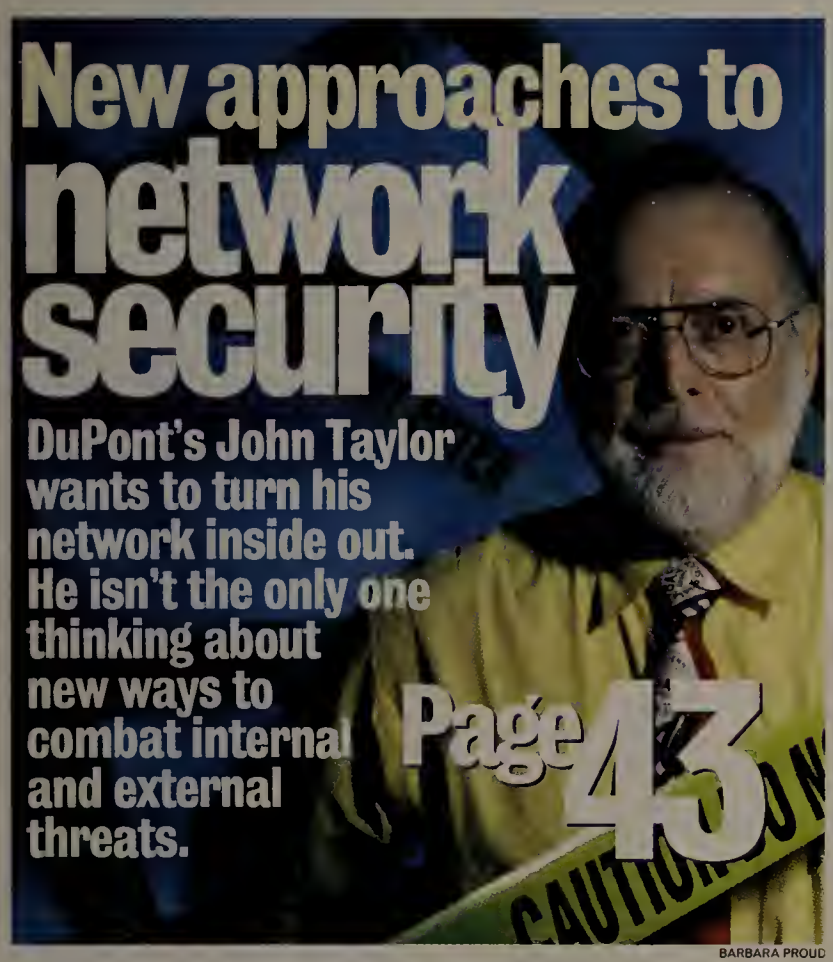
SIM gets hot

Check Point, Symantec are readying security information management wares. PAGE 15.
Early adopters share their experiences with SIM tools. PAGE 21.

NetworkWorld

The leader in network knowledge ■ www.nwfusion.com

September 30, 2002 ■ Volume 19, Number 39



BARBARA PROUD

IBM, Microsoft shift battle lines

■ BY JOHN FONTANA

The long-running fight for e-mail supremacy between Lotus Domino and Microsoft Exchange might be winding down, but the rival vendors are rearming for a related but broader battle that will be defined by suites of collaborative components and Web services platforms.

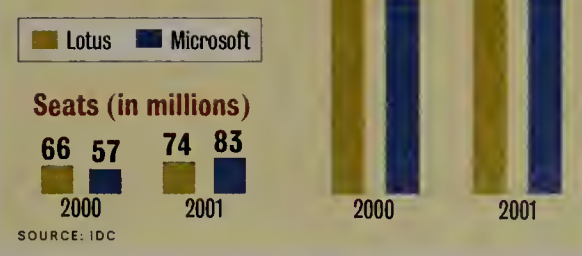
The two will butt heads in the next 10 days as Lotus Software ships Domino 6 this week and Microsoft follows with details of the next version of Exchange — code-named Titanium — and explains its long-term road map at its annual user conference beginning Oct. 8.

But the real stakes have expanded beyond Domino and Exchange to encompass Microsoft's .Net platform and IBM's Java 2 Platform Enterprise Edition (J2EE) strategy around its WebSphere product line, according to experts. Both vendors have made no secret that features of Domino and Exchange, such as calendaring and workflow, will become part of a group of collaborative components

See Battle, page 14

Neck and neck

How Lotus and Microsoft fare in the messaging market.



SOURCE: IDC

A year of selling switches wins Dell fans, skeptics

■ BY JENNIFER MEARS

Cisco, 3Com, Nortel and . . . Dell?

In the year since Dell made its foray into LAN switching with a set of low-cost workgroup switches, its name has popped up increasingly on network equipment buyers' shopping lists. While the world's No. 1 PC maker declines to divulge financial details of its switching business, the company says it is seeing steady growth quarter over quarter as it capitalizes on its established customer base and rolls out products geared for enterprise network needs.

"I spent a lot of time contemplating whether I wanted to go

See Dell, page 61

NEWSPAPER ■ $5.00

012

Siemens raises its VoIP

New IP telephony products expand capacity, extend reach.

Money talks

Siemens has stepped up R&D for voice technologies.

Percentage of R&D devoted to voice research (in billions)



SOURCE: SIEMENS

■ BY PHIL HOCHMUTH

RESTON, VA. — Siemens will in the next few weeks unleash a barrage of IP telephony products and applications aimed at large-scale enterprise convergence deployments.

Upgrades for Siemens' HiPath 5000 enterprise softswitch will double the capacity of the IP PBX to 2,000 lines, the company says. And it will be possible to use smaller HiPath 3000s as survivable switch nodes in HiPath 5000 networks. Siemens also is unveiling a line of middleware designed to extend voice and Web-based applications to mobile users.

While Siemens has offered HiPath convergence products for two years, competitors Avaya, Cisco, Nortel and 3Com were first to scale support beyond 1,000 IP users, observers say.

And though the German company has offered converged messaging applications, it had yet to bring its full telephony features and technology to bear

See Siemens, page 13



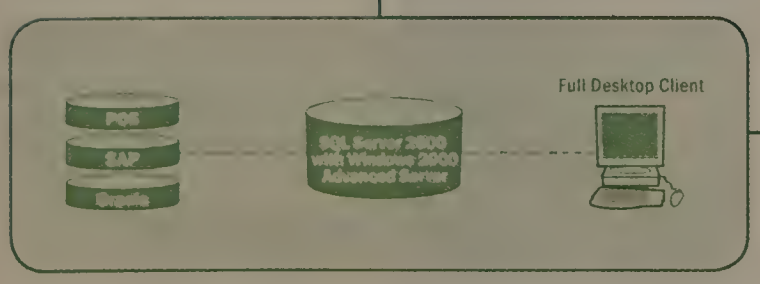
When .NET connected software helps you quickly connect islands of data into one clear picture for your employees, that's one degree of separation. All too often, data critical to internal decision-making is scattered throughout your enterprise, and you need to collect and present it in a way that makes sense—quickly. Microsoft® SQL Server™ 2000 Enterprise Edition with Analysis Services unifies and analyzes data from various systems using Data Mining and Data Transformation Services. Analytics built into Data Analyzer make information available immediately to the employees who require it, in a way that makes decision-making easier and more effective. And that's important, because when vital decisions are put off, so are profits. That's one degree of separation. That's business intelligence with .NET. Find out how .NET connected software can help you see the big picture. Go to **microsoft.com/enterprise** Software for the Agile Business.

© 2002 Microsoft Corporation. All rights reserved. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The names of actual companies and products mentioned herein may be the trademarks of their respective owners.



and a global perspective.

CompUSA *used Microsoft SQL Server 2000 with Analysis Services and Data Transformation Services to extract point-of-sale data from 228 stores, 150 applications, and numerous databases, and then integrate the information into one data warehouse. Now, not only are employees able to get a clearer picture of the business at large, but the quick delivery of data means they can adjust to meet opportunities as they knock.*



Microsoft®



If you had BrightStor ARCserve Backup, you wouldn't need this.

Worried that your current backup software isn't going to be there when you need it most? It's time to consider BrightStor™ ARCserve® Backup, the industry leader in backup and data protection. Right now is the best time to make your decision to change with the BrightStor ARCserve Backup Competitive Replacement Promotion. For as little as $495, you can get a complete suite of industry-leading backup and restore technology. Or choose the $995 Deluxe Package including the Disaster Recovery Optian, Open File Pratection, Client Agents, 24 x 7 Technical Support, Upgrade Protection and more valued at up to $5,800. Of course, BrightStor ARCserve Backup isn't just a great deal. It's also a great praduct. And it's part of the most comprehensive family of storage management salutions, backed by the campany that protects 99% of the Fortune 500.® Contact us today to experience BrightStor ARCserve Backup. And get the peace of mind you just can't get from anywhere else.

$495 Complete Suite

$995 Deluxe Package

BrightStor ARCserve Backup Competitive Replacement Promotion

ca.com/arcserve/replace 1-866-480-8903 Promo Code 1029

BrightStor™ ARCserve® Backup ca Computer Associates™

...and Canada between June 10, 200... and September 30, 200... User must provide proof of pree...ting competitive ...ftware to purchase prom...onal ...mpetitive re...acement ... CA re...s the right to alter, amend, cancel or extend this promotion at any time without notice. All ...cisions by CA are final. Void where pro...ited by law, see website for ...mplete ...tails. ... Computer Associates International, Inc. (CA). All rights reserved.

9/30/02

NetworkWorld

News

■ **8 Network Appliance** to tout SAN/NAS flexibility.

■ **8** Some analysts warn **bandwidth prices** are set to rise.

■ **10** Reaping the rewards of **best practices** in systems management.

■ **10 Cisco** combines its security management tools.

■ **15 Check Point, Symantec** to shake up security management.

■ **16 XCache Technologies** set to offer Web acceleration in an appliance.

Infrastructure

■ **17** Ascendent pitches PBX business continuity product to government, military and business.

■ **17** Nortel looks to lock down Web servers and remote offices.

■ **18** Web Office rolls out all-in-one small office box.

■ **18 Kevin Tolly:** 'Always on' programs pose an 'always on' threat.

Enterprise Applications

■ **21** Users shoring up network security with security information management.

■ **21** NetIQ upgrades security management tools.

■ **22** Gartner: Negotiate CRM licensing terms carefully.

■ **24 Scott Bradner:** What are they so worried about?

Service Providers

■ **27** Network services firm Savvis attracts funding in poor market.

■ **27** BellSouth getting close to having long-distance ducks in a row.

■ **28 Johna Till Johnson:** Here's why cable companies will win.

■ **30 Special Focus:** Content-delivery network providers look to speed Web applications.

The Edge

■ **31** CommWorks plugs along.

■ **31** Convergent targets cable operators.

Technology Update

■ **35** Multicast fan-out saves bandwidth.

■ **35 Steve Blass:** Ask Dr. Internet.

■ **36 Mark Gibbs:** More weirdness.

■ **36 Keith Shaw:** Connecting to Sprint's new network.

Opinions

■ **38 Editorial:** Shopping for carrier services on the Web.

■ **39 Joel Snyder:** Why trade shows still matter.

■ **39 Frank Dzubeck:** Reality strikes the grid.

■ **62 BackSpin:** What should have been done about security.

■ **62 'Net Buzz:** Getting a grip on grids.

Management

■ **48** IT pros have an unusual take on getting respect.



SUSAN SYNARSKI

Features

P3P stands for privacy practices

Find out what this new Internet privacy standard means for your Web site.

Page 41.

The new security battle plan

Putting up a firewall doesn't cut it anymore. You need a new security model that takes into account internal hackers, road warriors, remote workers, business partners and e-commerce customers.

Page 43.



BARBARA PROUD

John Taylor, chief technologist at DuPont, is looking into a different approach to security by putting all the client desktops on the Internet. See page 46.

NetworkWorldFusion

www.nwfusion.com

Interactive

Dave Kearns vs. Mac fans
Mac enthusiasts are steamed after a recent column in which Kearns said having a Mac network doesn't mean a company doesn't need IT.
DocFinder: 2240

Your Microsoft wish list
What do you want to see from Redmond? Participate in our ongoing Vendor Wish List series.
DocFinder: 2241

Networking Encyclopedia
Get definitions for the technologies, hardware, protocols, standards and more behind networking.
DocFinder: 2242

Top ISP Report
Is your ISP measuring up? Find out with our Top ISP Report, a joint venture between *Network World* and eTesting Labs' Internet BenchMark service. **DocFinder: 2236**

Seminars and Events

Reduce the cost of your WAN
Get instruction on the latest technologies, services and strategies that reduce the cost and increase the value of your WAN at Network World's free event, "State of the WAN: Fine-tuning your Wide-Area Infrastructure." **DocFinder: 2247**

Columnists

Compendium
Why the BBC uses Linux
Fusion Executive Editor Adam Gaffin says one reason the worldwide media giant uses the operating system is because the support is so good.
DocFinder: 2443

Help Desk
Phone and computer integration
Columnist Ron Nutter helps a user who wants to add services such as voice mail to remote locations without having to deal with individual phone companies or different service providers at each locale.
DocFinder: 2444

Home Base
Help from the pros
Columnist Jeff Zbar says if you're launching a telework program from scratch, you should consider hiring a telework consultant.
DocFinder: 2445

View from the Edge
Riding on the metro
The Edge Managing Editor Jim Duffy says Cisco and Nortel are moving toward the light in a dim telecom market.
DocFinder: 2446

■ **CONTACT US** Network World, 118 Turnpike Road, Southborough, MA 01772; **Phone:** (508) 460-3333; **Fax:** (508) 490-6438; **E-mail:** nwnews@nww.com; **STAFF:** See the masthead on page 14 for more contact information. **REPRINTS:** (717) 399-1900

SUBSCRIPTIONS/CHANGE OF ADDRESS: Phone: (508) 490-6444; Fax: (508) 490-6400; E-mail: nwcirc@nww.com; URL: www.subscribenw.com

What is DocFinder?

We've made it easy to access articles and resources online. Simply enter the four-digit DocFinder number in the search box on the home page, and you'll jump directly to the requested information.

News Bits

Slapper takes one on the chin

■ The first peer-to-peer computer virus with denial-of-service capabilities — a worm called Slapper — took a new turn last week. The original worm, Slapper.A, sets up its own hacker peer-to-peer network on compromised Linux Apache Web servers. Copycat virus writers used the source code in Slapper.A to produce two variants, Slapper.B and Slapper.C, which add new "features" such as the ability to collect system configuration information or use a different port. Although the original Slapper infected at least 30,000 Apache servers, last week it showed signs of ebbing to fewer than 1,000 infected machines. One reason for that, according to security firm F-Secure, is that someone sent a command on Slapper's peer-to-peer network to kill the Slapper.A worm on infected servers, the first time anyone can recall a worm being used to kill a worm. "We thought of doing that, but it's invading machines," says F-Secure's virus expert Mikko Hypponen. "We talked to our lawyers, and they advised against it. So it wasn't us."

BMC snatches up Remedy . . .

■ Systems management software maker BMC Software last week announced it would buy trouble-ticketing vendor Remedy from Peregrine Systems for $350 million. BMC says it expects the deal to close within 60 days, pending approval from the U.S. Bankruptcy Court and regulatory groups. Remedy will operate as an independent unit under BMC. According to BMC, the companies' product lines have been integrated for years, and existing Remedy customers will be able to keep operations running smoothly. BMC says it expects Remedy to be profitable within 12 months.

. . . while Peregrine files for Chapter 11

■ Peregrine Systems last week announced both the sale of Remedy to BMC and its decision to file for Chapter 11 bankruptcy. Peregrine acquired Remedy in August 2001 and last May encountered its first accounting issues spanning 2000 and 2001. In June, Peregrine began cutting jobs and closing offices. The cuts affected Remedy employees, but the current Remedy head count remains at more than 1,000 employees.

Flock to Windows continues

■ It apparently takes more than a few bugs to scare off the Microsoft faithful. An IDC report last week showed Microsoft Windows accounted for almost 49% of all new license shipments for server operating environments in 2001, a 7% increase over the previous year. The company also garnered 93% of new client operating environment licenses, a 1% jump over 2000. IDC said there were 5.7 million new license shipments in the server operating environment in 2001. Besides Microsoft's share, Linux had 25.7%, NetWare 11.7% and combined Unix 11.6%. IDC said Microsoft's new licensing program and a push by customers to upgrade older Microsoft technologies were two factors for the increases.

Tesla-powered PCs

Tesla coils are cool devices that generate zillions of volts of electricity. Naturally, somebody has rigged up a pair to power his PC, although he now needs advice on keeping the PC cool and how to keep the neighbors from complaining about the noise.

Read more at: www.nwfusion.com, DocFinder: 2451.

■ TheGoodTheBadTheUgly

Break out the shopping carts. Senior IT executives plan to increase their budgets by an average of 3.7% during the next six to 12 months, according to a new survey by Aberdeen Group. "We believe that this expected budget increase is indicative of a nascent resurgence in IT spending, especially since the same survey group indicated they planned to decrease budgets by 1.4% back in February," says Hugh Bishop, an Aberdeen senior vice president. ➤



HARRY CAMPBELL

Bleeding continues. There appears to be no letup in the flow of pink slips among high-tech giants. Hewlett-Packard last week reported it will cut 16,800 jobs over the next year, up 1,800 from previous estimates. A silver lining: HP is hiring in its printing and services divisions.

Pig pile on Siebel. We're not sure which was uglier: The fact that independent market research firm Nucleus Research found more than 61% of 23 Siebel reference customers reported a negative return on investment on their implementations after more than two years of use or the manner in which Siebel's competitors in the CRM market tripped over one another to make us aware of the survey findings.

EMC on a buying spree

■ EMC is speeding along the consolidation of the storage industry and filling gaps in its product line with the acquisition of Prisa Networks, a specialist in storage resource management software. The company recently closed the deal for $20 million. EMC also has bid on the data-recovery and back-up software of Sanrise, a storage service provider that filed for bankruptcy in June. Sanrise had more than 600 customers and cash exceeding $200 million. When the SSP market failed and other companies converted to software sales, Sanrise couldn't adjust fast enough. An agreement is expected to be reached by year-end. EMC also is reported to have acquired the intellectual property of Cereva Networks, once a high-flyer in the industry with $137 million in funding and a custom-built storage server meant to replace EMC Symmetrix with faster, less-expensive hardware.

C&W sells customer list to New Edge

■ Cable & Wireless is selling a portion of its data service customer list to New Edge Networks for up to $4 million. C&W originally announced its plans to ditch some of its U.S. data customers in May, saying that the company instead is focusing on more profitable services such as IP VPN, Web hosting and content distribution. New Edge will pay C&W for each of the potential 1,500 dedicated IP, frame relay and private-line customers that move to its network. C&W also sold its voice customer list to Primus Telecommunications earlier this month for up to $32 million.

SBC to cut another 11,000 jobs

■ Regional Bell operating company SBC Communications announced last week that it will cut its workforce by about 11,000, approximately 6% of its total workers. The layoffs are in addition to 10,000 jobs SBC already cut this year. The carrier also slashed its capital spending forecast for 2003 from $6 billion to $5 billion. SBC spent almost $8 billion this year.

100% Dell performance and reliability. Up to 50% less than the competition.

PowerConnect Switches...100% no-brainer.



Right now, **get $100 off Dell's NEW PowerConnect Switches.**

Dell | Managed Switches

PowerConnect™ 3024* Switch

Scalable, High-Performance Managed Switches
- 24 Fast Ethernet Ports Plus 2 Built-In Gigabit[56] Uplinks
- Up to 12.8 Gbps of Wire-Speed Switching Capacity
- Stackable (Supports up to 144 FE Ports in a Stack)
- Remote Access and Management Capabilities
- 3-Yr Next Business Day Unit Replacement[52]

$699 as low as **$20**/mo., (46 pmts[30]) 60 Days Same-As-Cash for qualified customers
E-VALUE Code: 12883-S10906

PowerConnect™ 3048* Switch

NEW Rack-Dense, High-Performance Managed Switches
- 48 Fast Ethernet Ports Plus 4 Built-In Gigabit[56] Uplinks
- Up to 21.6 Gbps of Wire-Speed Switching Capacity
- Stackable (Supports up to 144 FE Ports in a Stack)
- 3-Yr Next Business Day Unit Replacement[52]
- Sale Price Includes $100 Discount

$1199 as low as **$34**/mo., (46 pmts[30]) 60 Days Same-As-Cash for qualified customers
E-VALUE Code: 12883-S10911

PowerConnect™ 3248* Switch

NEW High-Performance Enterprise Class Managed Switches
- 48 Fast Ethernet Ports Plus 2 Built-In Gigabit[56] Uplinks
- Multi-Layer Traffic Classification at Layers 2, 3, and 4
- Advanced Management via Browser or Industry-Standard CLI
- 3-Yr Next Business Day Unit Replacement[52]
- Sale Price Includes $100 Discount

$1399 as low as **$40**/mo., (46 pmts[30]) 60 Days Same-As-Cash for qualified customers
E-VALUE Code: 12883-S10913

PowerConnect™ 5224* Switch

NEW High-Performance All-Gigabit[56] Managed Switches
- 24 Copper Gigabit[56] Ports Plus 4 SFP Fiber Uplinks
- Layer-3 Aware Class of Service Prioritization
- Advanced Management via Browser or Industry Standard CLI
- 3-Yr Next Business Day Unit Replacement[52]
- Sale Price Includes $100 Discount

$2399 as low as **$68**/mo., (46 pmts[30]) 60 Days Same-As-Cash for qualified customers
E-VALUE Code: 12883-S10923



Managed switches you can count on to do more than just save money. Just what you'd expect from Dell, proven technology that cuts costs. So whether you're building your first network or expanding your existing one, Dell PowerConnect managed switches can handle your busy organization and help you save money. Equipped with the latest industry-standard technology, PowerConnect switches are highly interoperable and easily integrate into an existing network. They're scalable for future growth and have easy-to-use management features to help you improve network up-time and security. PowerConnect switches include Next Business Day[52] Unit Replacement and, of course, they're all backed with Dell's service and support. Choosing Dell PowerConnect switches means you won't have to sacrifice performance for price. And that's a concept you'll definitely want to plug into.

USE THE POWER OF THE E-VALUE CODE.
Match our latest technology with our latest prices. Enter the E-VALUE code online or give it to your sales rep over the phone. www.dell.com/evalue

VALUE

Growing your network. Easy as DELL™

Visit **www.dell.com/switch** or call toll free **1-800-437-0182.**

Call: M-F 7a-9p|Sat 8a-5p CT.

Prices and availability may change without notice. Taxes and shipping charges extra, and vary. U.S. new purchases only. **LIMIT 5 DISCOUNTED OR PROMOTIONAL ITEMS PER CUSTOMER.** Dell reserves the right to cancel orders arising from pricing or typographical errors. Dell cannot be responsible for errors in typography or photography.

This equipment has been tested by the Federal Communications Commission and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This device is not authorized for use in a residential environment. This device is not and may not be offered for sale or lease, or sold or leased for use in a residential environment unless it is authorized or certified for use in a residential environment.

Monthly payment based on 46 months at 0% APR at 19.99% variable rate to approved Small Business customers. Your interest rate and monthly payment may be same or higher depending on your credit worthiness. Minimum monthly payment is $3. Offer may change or expire without notice. Offer may not be available in all states. Offer includes 6 months Same As Cash on QuickLoan. Interest at rates starting at 0% APR will be charged if you do not pay the entire purchase price within 60 days after QuickLoan Commencement Date (which is five days after product ships) or have more than the minimum payment by the Payment Due Date. Minimum monthly payments are required. Offer valid on new purchases only. Not valid on past orders or financing. Quicken arranged by Dell Financial Services L.L.C. or its assignee. Business Checking with Bill Pay is provided by Bank of America, N.A. Member FDIC. Taxes, fees and shipping charges extra and vary. Not valid on past orders or financing. Quicken arranged by Dell Financial Services L.L.C. or its assignee. Business Checking with Bill Pay is provided by Bank of America, N.A. Member FDIC.

Gigabit Ethernet transmission connection to a Gigabit Ethernet server and network infrastructure required. Service or implementation fees may be provided by a third party. Service may not be available in all areas. Subject to geography, restrictions and limitations. Next business day service. Dell must notify the service provider before 5pm (dependent on service contract) of customer's need. Availability varies. Dell's Limited Hardware Warranty and Service Agreements apply.

Dell Computer Corporation. All rights reserved.

Network Appliance opening up to SANs

■ BY DENI CONNOR

NEW YORK — Network Appliance this week is expected to announce a handful of products that it claims will offer customers for the first time the flexibility of simultaneous access to storage-area network and network-attached storage data.

Having made its mark as a NAS vendor, the company's new FAS960 and FAS940 storage devices will connect to Ethernet and Fibre Channel networks, and serve data from both. Network Appliance also will introduce a version of its operating system, Data ONTAP 6.3, which enables SAN capability for the FAS960 and FAS940, while providing a higher storage capacity and larger volume sizes. Dividing disks into fewer volumes can increase performance.

While customers are excited that Network Appliance will be able to supply them with file-level NAS and block-level SAN data, they are concerned about other issues, such as performance and support.

"Network Appliance will have to prove performance and reliability before they can penetrate the [SAN] market," says Shelly Shostak, lead Unix administrator for mobile communications company Quicksilver Technology in San Jose. Shostak has two Network Appliance F760 file servers running Version 6.1.2 of Data ONTAP.

"[SAN] devices still don't play together very well. It is imperative that Network Appliance be able to provide a solution it knows works [with other products] and can provide customer support for it," Shostak says.

So far, Network Appliance has done little of the integration with other SAN devices that users and vendors find critical to SAN implementations, experts say. Sources say that Network Appliance will only announce interoperability with Brocade Communications Fibre Channel switches.

Network Appliance declined to comment on its upcoming news.

The FAS960 and FAS940 will be SAN-enabled when the new version of ONTAP ships. Until then, they operate only as NAS devices. The boxes also include upgraded dual processors: the FAS960 operates at 2GHz; the FAS940 at 1.8GHz.

Customers who have tested the boxes with only file-level capability say they are seeing a 25% performance increase over Network Appliance's F880 file server. With the upgraded processors, they see transfer times reduced by one-third.

"This increase in performance, however, doesn't factor in what will happen when SAN [capability] is turned on," says a storage administrator who asked not to be identified.

The Network Appliance devices fit into a group of arrays Gartner calls NAS gateways — devices that let users on the Ethernet network view the data on the Fibre Channel network as files rather than blocks of information.

Most arrays on the market only handle either NAS or SAN data. Vendors that have introduced NAS gateways in the past two years are storage giants EMC and IBM, and start-up LeftHand Networks. EMC introduced Celerra; IBM launched the TotalStorage Network Attached Storage 300G; and LeftHand Networks promises with its Network Storage Module 100 the ability to view block- and file-level data concurrently from their devices as soon as next month.

The market for NAS gateways is expected to grow quickly as customers want to access SAN or NAS data from one device. Gartner predicts that about 1.4 million units will ship this year, climbing to more than 10.2 million units in 2006.

The FAS960 and 940 replace Network Appliance's F880 and F840 file servers. The FAS960 will feature as much as 16 terabytes of capacity; the smaller FAS940 will handle up to 9 terabytes. A Remote Management Card also will be offered for the FAS960 and FAS940. A software product called SyncMirror, which is used on NAS-only F800 Series file servers, also will be included. SyncMirror allows two copies of a file system to be offered for fault tolerance. ■

SAN/NAS convergence

Network Appliance's FAS960 and FAS940 are the first arrays that retrieve both block- and file-level data. Here's a sampling of SAN/NAS convergence devices.

Vendor	Product	File/block concurrent	How implemented
Auspex	NSc300000	No	Attaches block-based SAN storage to the Ethernet network so its contents can be viewed and retrieved as files.
EMC	Celerra	No	Attaches block-based SAN storage to the Ethernet network so its contents can be viewed and retrieved as files.
IBM	TotalStorage Network Attached Storage 300G	No	Attaches block-based SAN storage to the Ethernet network so its contents can be viewed and retrieved as files.
LeftHand Networks	Network Storage Module 100	Yes, by late October	Operates as a single block- and file-level device; contains IDE drives.
Network Appliance	FAS960, FAS940	Yes	Operates as a single block- and file-level device; contains Fibre Channel drives.

Some say bandwidth prices set to rise

But analysts say negotiating good deals will remain possible.

■ BY MICHAEL MARTIN

The demise of numerous telecom providers and struggles of others such as WorldCom, Global Crossing and XO Communications could cause the services prices of more stable players to rise, according to some experts.

"We think the days of the network manager being a hero and renegotiating the price of network services down by 20% a year are over," says Jay Pultz, a vice president and research director with Gartner.

Gartner has begun telling its clients to lock in rates with their network service providers now, because there are indications that prices from established carriers such as AT&T and Sprint are on the rise.

In general, Pultz expects prices for data services, including frame relay, ATM and private line, to rise between 3% and 5% over the next year. Prices for voice could go up between 5% and 10%, he says.

"Long-distance voice is likely to be most susceptible to near-term price increases, because it's the service that until now has dropped in price the most dramatically," he says.

Of course, because data rates vary region by region depending on supply and demand in a particular area, prices won't increase everywhere, Pultz says.

Get a better deal

Here are some tips from Gartner for dealing with your network service providers.

- Lock in rates for U.S. locations now, because prices will start to rise.
- Negotiate flexible clauses that can get you out of your contract.
- Make your annual commitments to any one carrier as small as possible.
- If you haven't renegotiated a contract for a while, do so now to take advantage of low prices.

International services could continue to decrease in price, Pultz says, because those prices are currently so high.

With fewer telecom competitors, there's less opportunity for business users to shop around for bargains, says Rosemary Cochran, an analyst with Vertical Systems Group. Users also are becoming more reluctant to change their service providers, she says.

"There's a flight to quality back to the established carriers, because of all the [competitive local exchange carriers] and ISPs that have gone out of business," Cochran says.

IP VPNs were supposed to help drive data networking costs down, but Cochran says that hasn't really happened.

To get an IP VPN installed, users still require some kind of dedicated access for the last mile, unless they're willing to take a quality-of-service hit with a DSL or cable connection. And if users want reliable performance over an IP WAN, they'll have to pay more for a private carrier IP network.

"To get the same reliability for IP VPN as a frame, private line or ATM connection, you're not going to be saving a lot of money," Cochran says.

Another area where prices should continue to decrease is on high-capacity lines such as OC-3s.

"There's still a lot of room for negotiation," Cochran says.

Users willing to go with less stable providers that are close to bankruptcy, or emerging from bankruptcy, also likely can cut better deals.

Pultz says when Global Crossing emerges from Chapter 11, it will have no debt and a multibillion dollar network. So it can afford to offer customers cut-rate prices.

In the long-term, though, the Global Crossings of the world are going to have to invest in new network equipment to launch new services, so the cut-rate strategy won't work forever, Pultz says. ■



So many network applications.
So little throughput.
It's time for Gigabit to the desktop.

Intel® PRO Network Connections

The surge in network applications has caused bottlenecks on desktops everywhere. The solution? Help your organization tackle all those network backups, remote software distributions and massive file downloads by providing an equally massive increase in throughput. With the Intel® PRO/1000 MT Desktop Connection, you'll benefit from 10 times the throughput. Other advantages: a Gigabit connection works on an existing 10/100 Mbps Cat-5 network, and will seamlessly ramp up to 1000 Mbps. When this Gigabit connection is combined with the Intel® Pentium® 4 processor, studies have demonstrated a significant boost in desktop performance. Intel, the leader in desktop connections, makes multi-tasking less of a task — cost-effectively and without any need for expensive rewiring. Intel® PRO Network Connections. **The intelligent way to connect.**

intel®

For a trial kit, product and test information: www.intel.com/go/desktopgig

©2002 Intel Corporation. Intel is a registered trademark of Intel Corporation or its subsidiaries in the United States and other countries. All rights reserved.

Reaping the rewards of best practices

■ BY DENISE DUBIE

IT managers with tight budgets and growing demands might want to check out a set of best practices that have the likes of Proctor & Gamble and the U.S. Navy talking about its promise to cut costs and optimize services.

The Information Technology Infrastructure Library (ITIL) is a set of rules for how to deliver IT services more efficiently by improving management processes across IT departments that support networks, applications, databases and systems. Developed in 1992 and maintained by the U.K.'s Office of Government Commerce, ITIL originally served as a set of standards that service providers had to follow to deliver IT services to the British government. After its inception, public companies realized the benefits and implemented parts of ITIL in their internal IT departments.

Proctor & Gamble representatives told about 1,000 attendees at the International IT Service Management Summit in Boston last week that the global company has saved about $500 million across multiple departments since beginning to streamline processes with ITIL four years ago.

"It all comes down to the fact that IT is an integral part of supporting the business," says Morton Cohen, manager of global service management at Proctor & Gamble. "When IT processes are done by 5,000 people consistently across one company, service management can deliver tremendous savings."

Cohen, who co-chairs the International IT Service Management Forum (ITSMF) with 8,000 members worldwide and about 700 in the U.S, says Proctor & Gamble's IT group avoided spending $125 million by implementing the service management processes outlined by ITIL.

Proctor & Gamble implemented ITIL's "Follow The Sun" management process, which entails staffing network data and operations centers around the world according to time zone. For instance, IT management staff in the Cincinnati headquarters manned shifts from 11 a.m. to 7 p.m. local time, while staff at the Brussels data center worked 9 a.m. to 5 p.m. local time, and in Singapore, network operations punched the clock from 7 a.m. to 3 p.m. local time. The staffing let Proctor & Gamble use employees worldwide to ensure all its data centers were fully staffed from 8 a.m. to 5 p.m. in each location's local time — without adding staff.

And while ITIL does not recommend specific vendor hardware or software, it gives network managers guidelines on how to implement repeatable and consistent processes to eliminate human error caused by solving IT problems on the fly. The foundation of ITIL's principles can be used throughout a company: Proctor & Gamble used the ITIL tenets in its accounting, human resources and other departments.

Among the IT processes ITIL addresses are: service-level management, capacity management, contingency planning, availability management, cost management for IT services, configuration management, problem management, change management, help desk, and software control and distribution. ITIL certification programs promise to train IT professionals to adapt ITIL to their networks.

"ITIL is about having processes in place that enable the people, software and hardware you do have to work better so ultimately the need to fight fires lessens," says Glenn O'Donnell, a research director with Meta Group.

While companies and governments worldwide adopted ITIL at its inception in 1992 as a foundation for IT best practices, the North American IT community only awakened to its potential benefits during the past 18 months.

"It's partly the cowboy nature of America. IT people here seem to always put the tools before the rules," says D. Akira Robinson, a computer scientist with the U.S. Navy, which started rolling out ITIL processes 10 months ago. He says the government began working with ITIL after it signed a services contract with outsourcing giant Electronic Data Systems (EDS).

"What EDS brought to the table in terms of service management opened eyes about the best practices," he says, adding that the Navy wanted to implement those same practices available with outsourcers internally.

Robinson says many might think ITIL is academic, but experience taught him ITIL isn't about theories for IT management, but about how to better manage, what to do and why to do it.

Organizations such at the Strategic Sourcing Advisory Council (SSAC) — formerly the MSP Association — are encouraging outsourcing companies and service providers to get ITIL-certified to compete with internal IT departments at large companies now learning of ITIL, along with companies such as EDS.

"It's a way to track how your provider is performing point by point," says Edward Taton, vice president of business development at IntelliNet and spokesman for the SSAC. "IT departments may not track how they perform these services, but as an outsourcer, if you go in to sell a service based on an ITIL process, it's considered proven."

But while ITIL promises cost savings and IT operational efficiencies, implementing the same processes for, say, change management across what still remain IT silos — network, system, application, database, help desk and service management — would pose a challenge for most corporate IT departments.

"It's not a shrink-wrapped problem resolution. The company's technology decision-makers — the CIO, the CTO — have to make the effort to improve operational efficiencies and train their staff," O'Donnell says. An ITSMF founding company, ManageOne, of Dallas and London, estimates it takes at least six to nine months to reap even the early benefits of implementing ITIL. ■

Itching for ITIL?

Information on how to implement ITIL is available from many sources:

ITIL resources
www.itil.co.uk
www.itilbooks.com

IT Service Management Forum
www.itsmf.net (U.S.)
www.itsmf.com (U.K.)

British Standards Institution
www.bsi.org.uk

Information Systems Audit and Control Association
www.isaca.org

Training, certification and additional ITIL literature is available for purchase at www.clicktso.com and www.pinkelephant.com

SOURCE: MANAGEONE

Cisco combines security tools

■ BY PHIL HOCHMUTH

SAN JOSE — Cisco last week announced upgraded software that offers control over multiple types of Cisco network security products from a single Web-based application.

CiscoWorks VPN/Security Management Solution (VMS) 2.1 consolidates multiple security management applications onto one server and can give IT security staff a big-picture view of events as they happen across Cisco VPN routers, IPX firewalls, intrusion-detection system (IDS) hardware and server-based host sensors.

The new software combines the VPN configuration and management tools of CiscoWorks VMS 2.0 with two separate Secure Policy Manager (CSPM) versions previously used for configuring PIX firewalls and Cisco IDS hardware and host-sensor software. The $8,000 software package also is designed to centralize event logs from multiple security points in the network and lets users corroborate events across boxes as they happen, such as a hacker attempting to bypass a firewall and access a server monitored by an IDS appliance.

Before CiscoWorks VMS 2.1 was deployed at the county of Los Angeles, the IT department used two versions of CSPM software for managing its PIX firewalls and Cisco IDS gear, says Jac Fagundo, senior IT specialist with L.A. County.

"You had to have these versions of [CSPM] on separate servers, and they didn't talk to each other at all," he says. With the new software, "it's a lot easier to deploy all of your security [devices and software] from one tool." L.A. County also has Cisco VPN equipment, but does not use CiscoWorks VMS to manage that part of the network.

Fagundo adds that another helpful feature of CiscoWorks VMS 2.1 is an Auto Update Server module, which can be used to push intrusion-detection signatures and policy updates to all Cisco security gear.

Cisco also released its Access Control Server (ACS) 3.1, an authentication server that runs on Windows NT or 2000, with support for the emerging Protected Extensible Authentication Protocol (PEAP) for securing wireless LANs.

PEAP was developed by Cisco, Microsoft and RSA Security, and is a proposed IETF standard. It is a modified version of the IEEE 802.1x Layer 2 authentication protocol that can be used to force wired and wireless clients to authenticate to a network port or access point before gaining basic network connectivity or receiving an IP address. In addition to PEAP, Cisco's ACS now supports 802.1x and a proprietary wireless LAN authentication technology called Lightweight Extensible Authentication Protocol.

ACS 3.1 costs $6,000 ■

Security
Subscribe to our free newsletter.
DocFinder: 5434 www.nwfusion.com



Be a Net Know-It-All

■ THIS WEEK'S QUESTION:

Michael Barrett, the new president of the Liberty Alliance (a group supporting standards for authenticating online identities), is vice president of Internet strategy at which large enterprise network user?

Answer this and nine additional questions online and you could win $500! Visit Network World Fusion and enter 2349 in the Search box.

www.nwfusion.com

© 2002 Avaya Inc



Avaya scores with one of the world's largest IP Telephony networks.

Billions watched the FIFA World Cup™ as the vital voice and data from the world's largest sporting event was sent over one of the world's largest converged networks, designed, built and maintained by Avaya. Typically a 12-month project, it was completed in just four, and saved hundreds of thousands of dollars in costs. Our IP Telephony solutions handled close to 100,000 IP phone calls per day and peak data traffic four times that of a typical FORTUNE 500® company. Working with 27 venues in two countries and 40,000 network connections, Avaya, a global leader in voice and data networks, delivered a practically flawless performance. Utilizing the expertise of our Global Services organization and patented Avaya EXPERT Systems℠ diagnostic tools, the network handled 12.03 terabytes of data securely and reliably — with virtually zero downtime. See what Avaya can do for your business.

For a case study of the FIFA World Cup™ network, visit avaya.com/nowtwo

2002 FIFA WORLD CUP KOREA JAPAN

AVAYA

OFFICIAL PARTNER



With Avaya, you're already this close to IP Telephony.

Because Avaya, the leader in voice solutions, has opened up the world of IP Telephony to any business. In fact, our feature-rich MultiVantage™ software works in an open architecture. This allows you to utilize your existing investment in both Telephony and LAN switches, while extending Enterprise Class IP Solutions to anywhere in your network. So you get the flexibility to deploy new capabilities exactly where they're needed — while leveraging your current network and applications investments. To begin assessing your network, contact us at 866-GO-AVAYA. Or learn more at avaya.com/yes

AVAYA

COMMUNICATION WITHOUT BOUNDARIES

Siemens

continued from page 1

on the packet telephony world.

At the heart of the new capabilities is Version 4.0 of Siemens' call-control software, which runs the HiPath 5000 in corporate sites and the HiPath 3000 in smaller offices.

While the 4.0 software does not increase the capacity of the HiPath 3000 — 500 lines — it does let HiPath 3000s act as H.323 gatekeepers and TDM trunk/gateways for a centralized HiPath 5000. Off-loading public switched telephone network and voice-over-IP trunk processing and H.323 gatekeeper functions — call setup, teardown — to the HiPath 3000 means the HiPath 5000 can handle more calls, Siemens says.

"Adding capacity to the HiPath 5000 is going to strengthen [Siemens'] position to compete against the big incumbents like Avaya and Nortel, which have both packet and TDM telephony plays," says Brian Riggs, a senior analyst with Current Analysis.

Riggs says it is important for Siemens to emphasize its server-based, pure IP telephony systems, such as the HiPath, for customers looking for a completely converged voice system. This also could help the company compete against vendors such as 3Com and Cisco, which are leaders in IP telephony but have no legacy telephony customer base to draw from, as does Siemens.

VoIP disaster recovery

The 4.0 software also will let HiPath 3000s act as Survivable Media Gateways (SMG) in HiPath 5000 networks. In this SMG mode, Siemens says, each box could continue providing local phone access and complete telephony features to a branch office if a WAN link went down or the central HiPath 5000 failed.

The technology is an answer to Cisco's Survivable Remote Site Telephony (SRST) on its routers, observers say. SRST provides dial tone and some calling features when connectivity to a central Cisco IP PBX is broken. Siemens says it improves on this idea — introduced by Cisco last year — by providing full PBX functionality to IP telephony users who are cut off, whereas the SRST supports few features beyond dial tone, hold and call transfer.

Up to 64 remote HiPath 3000s can be clustered across LAN or WAN links, with a HiPath 5000 acting as the hub of the IP telephony network. Remote systems and the central IP PBX share a single user directory, dial plan and features.

"Survivability is very important" in an IP telephony system, says Brian Strachman, an analyst with Cahners In-Stat. "Many enterprises that have IP PBXs use them [in] remote offices" to connect back to centrally located PBX or IP PBX systems, he says.

"Raising scalability is the right move," he adds, because that's where the money will be in the next few years — large companies looking to replace old PBXs with IP.

This also could help Siemens improve its position in the LAN telephony market, which will reach $3 billion worldwide by 2005, Strachman says. While Siemens does not report IP PBX and handset sales, Strachman estimates that Siemens ranks in the bottom half of the top 10 sellers of IP telephony equipment.

Version 4.0 of the HiPath 3000 and 5000 call control software will cost between $310 and $720, and is expected to be available in the first quarter of 2003.

QoS in the mix

To help customers deploy converged environments, Siemens is introducing the HiPath QoS 2000 line of WAN traffic-shaping appliances. The products are said to be able to prioritize traffic into more than 1,000 classifications, with support for WAN speeds between fractional T-1 and 100M bit/sec. These products replace Siemens' HiPath AP 2500 line of QoS boxes, which supported traffic speeds up to 384K bit/sec.

According to Siemens, the box's wire-speed packet inspection engine prioritizes out-going traffic based on TCP/User Datagram Protocol (UDP) information or application type, such as voice, video or data. A management application — the HiPath QoSDirector — can be used to configure and manage up to 50 QoS 2000 boxes from a single site.

The QoS 2000 devices will cost between $5,500 and $25,000, for speeds ranging from 512K to 100M bit/sec. All products are expected to be available in the fourth quarter, except for the 512K bit/sec box, which is slated for the first quarter of 2003.

Convergence apps on tap

In addition to the IP PBX upgrades and new hardware, Siemens this week is announcing its HiPath CorporateConnect and HiPath CommResponse IP telephony middleware products.

CommResponse is a Windows 2000 server application that can be used to integrate interactive voice response (IVR) and text-to-speech functions with back-end systems. CommResponse can be integrated with Microsoft Outlook, Siemens' unified messaging servers or a Lightweight Directory Access Protocol server to retrieve corporate directory information or for transferring to other extensions.

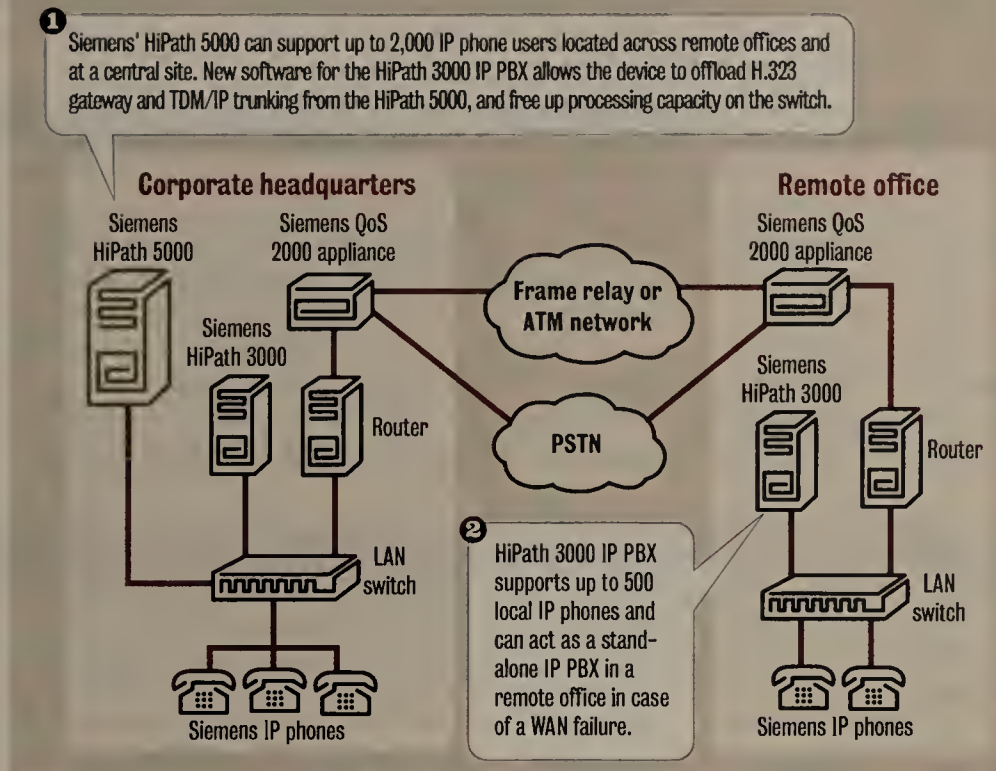
Once linked, employees could set up personal messaging portals that let callers schedule appointments in an Outlook calendar via touch-tone or IVR commands.

It also would make it possible to build companywide voice portals that let callers access Web-based data such as stock information or other messages. A text-to-speech engine is used to convert Web data into audio. Employees can post custom messages or Web information to their personal CommResponse portal via Web-based tools.

CorporateConnect, which also runs on Win 2000, can extend centralized PBX or IP PBX features to mobile phone or voice-enabled PDA users. After logging into the network via a password, all features from a Siemens PBX or IP PBX — such as four-digit dialing, transferring, hold, conference calling and messaging access — are extended to a user's PDA or cell phone. User access to the corporate network is via an encrypted IP connection.

Once users are logged into the IP network, they can dial out over the corporate network — even overseas links — to avoid cellular long-distance or roaming charges.

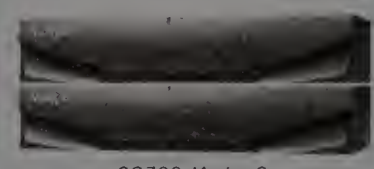
Both applications are available now. HiPath CommResponse costs $4,100 for portal channels and the CorporateConnect server costs $400 per user. ■



Get more information online.
DocFinder: 2449
www.nwfusion.com

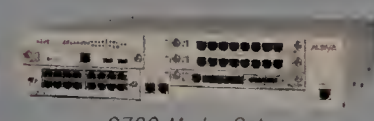
IP Telephony. Where to start?

With Avaya Enterprise Class IP Solutions (ECLIPS) featuring MultiVantage™ Software, start anywhere in your network.



S8700 Media Server

At the core.
- Delivers up to 99.999% reliability
- Scalable from 20 to 1 million users



G700 Media Gateway

At the edge.
- Survivable remote location
- Standards-based distributed architecture
- Cost-effective option



From IP Phones to Pocket PCs

With a specific workgroup.
- First to seamlessly extend applications to cellular
- Takes applications to remote and mobile workers for greater productivity

To begin assessing your network, contact us at 866-GO-AVAYA. Or learn more at avaya.com/yes

AVAYA
COMMUNICATION WITHOUT BOUNDARIES

Battle

continued from page 1

that can be embedded in applications built for their respective Web services infrastructures.

Those components are designed to lead network executives to a world where collaborative services are not separate products but embedded in familiar application interfaces, such as adding a group calendar into a CRM application. The concept has become known as contextual collaboration.

"The seat war isn't the focus anymore," says David Ellis, senior technical analyst for Carlson Shared Services, a travel, hospitality and marketing firm in Minneapolis that runs Domino and Exchange. "The issue now is that we have this stuff in place and how do we evolve and build off of it."

Ellis says his company first is looking to offer access to collaboration systems, such as messaging and conferencing, through a portal interface and then step up into the world of collaboration components embedded in applications. "We're just taking baby steps now," he says.

But make no mistake about the strategic importance of Domino and Exchange to their owners: 74 million users for IBM/Lotus and 83 million for Microsoft, according to IDC. Both vendors need to move those installed bases to the next generation of collaboration and Web services.

"IBM cannot afford to lose Domino users to Exchange because that gives Microsoft a pipeline into the enterprise infrastructure. And if Exchange loses seats to Domino then they lose the enterprise's interest in new collaboration features being added to the Windows [operating system]," says Harry Wong, CEO of Casahl in San Ramon, Calif., that makes data integration tools and is a Lotus and Microsoft business partner.

Wong says the collaboration battle is crucial to the level of success both sides will have with their Web services pitches. "There are multibillions of dollars at stake," he says. "It is a most interesting battle to watch."

Both vendors are gearing up to face the challenges and keep the other from stealing users.

"The old game of one-upmanship has been cast by the wayside for now," says Dana Gardner, an analyst with Aberdeen Group. "The two are now regrouping to battle over Web services and contextual collaboration that will be more framework-oriented instead of platform-based."

That regrouping includes some major tinkering with platforms and products that might take three or four years to blossom, according to experts.

IBM is at the start of a tricky transition from the all-in-one Domino Server back-end and development environment to WebSphere/J2EE and IBM's DB2 database. Domino 6, which includes a free version of WebSphere, is the first step in that transition. And while Versions 3.0 of Sametime (instant messaging) and QuickPlace (teamware) also will be released this week, sources say integration with J2EE is weak and won't be strengthened until late next year.

On the other hand, Microsoft needs to build an integration story around Exchange and myriad collaboration components such as SharePoint Portal Server and Content Management Server. And it must tie that to the collaboration features it has shifted into the operating system: SharePoint Team Services and its forthcoming real-time collaboration technology Greenwich that will provide instant messaging and eventually engulf the Exchange Conferencing Server.

In addition, Microsoft must prepare users for its .Net release of Exchange, code-named Kodiak, which will likely arrive in 2005 and introduce a new universal data store based on Microsoft's Yukon technology that will be a foundation of .Net.

Already the rhetoric is flying.

"Microsoft has separate product groups that lack a common strategy and [product] architecture, and they somehow have to bring that all together," says Ken Bisconti, vice president of messaging solutions for Lotus. "As the world moves toward contextual collaboration, users expect a broad portfolio of integrated products."

"Our strategy is an upgrade path, and IBM's is a rip-and-replace," says Jim Bernardo, product manager for the .Net enterprise server group at Microsoft. "The move from Domino means a change in the directory and the database. How do you migrate Notes [public-key infrastructure]? And the access control list concept in Domino won't be ported over [to WebSphere]."

Despite such skirmishing, both vendors are on their way to meeting user needs as part of the first phase of the transition to contextual collaboration.

Meta Group predicts that in the next three years every global 2000 organization will have broadly deployed three collaboration technologies: instant messaging, Web conferencing and teamware. Both vendors offer those capabilities today, but there is another aspect to the fight.

"The battle during and after that [initial] evolution will be over contextual collaboration," says Matt Cain, an analyst with Meta Group. "The players need to get third-party vendors, systems integrators and corporate developers to utilize those services by embedding them in business applications."

Cain says that while both vendors offer APIs to features of their collaboration services, the ultimate game is to provide Web services interfaces based on Simple Object Access Protocol.

"IBM is much further ahead in that they have articulated the vision and are building products," Cain says. "Microsoft isn't as clear on its long-term road map and how instant messaging, Web conferencing and teamware services come together." ■

Collaboration collections

Lotus and Microsoft have a number of collaboration products today with features that will likely define the next-generation collaborative components both plan to develop for their Web services platforms.

Lotus	Description	Comment
Domino	Core messaging, application development	Version 6.0 ships this week; on track toward componentization.
Sametime	Instant messaging (presence), conferencing	Version 3.0 ships this week; could lose enterprise battle to IBM's Enterprise Meeting Server.
QuickPlace	Teamware	Version 3.0 ships this week; moving toward tight coupling with Sametime.
Discovery Server	Knowledge management, extended search	Indexes documents, expertise.
Domino.Doc	Document management	Workflow for creating, managing documents.

Microsoft	Description	Comment
Exchange	Core messaging, limited application development	Next version "Titanium" in 2003 adds wireless support, loses instant messaging.
Exchange Conferencing Server	Voice and video	Days as a stand-alone server are numbered.
SharePoint Portal Server	Basic document management, indexing, search capabilities	Needs enterprise scalability; might absorb Microsoft's Content Management Server.
SharePoint Team Services	Teamware	Moving into .Net Server.
Greenwich Server	Instant messaging (presence)	Will become part of the operating system; slated to ship in 2003.

Lotus responds

■ **Lotus answers Java debate with free version of WebSphere in Domino 6. See www.nwfusion.com, DocFinder: 2448.**

NetworkWorld

EDITORIAL DIRECTOR: JOHN GALLANT
EDITOR IN CHIEF: JOHN DIX

■ NEWS
EXECUTIVE EDITOR, NEWS: BOB BROWN
ASSOCIATE NEWS EDITOR: MICHAEL COONEY
ASSOCIATE NEWS EDITOR: PAUL MCNAMARA

■ INFRASTRUCTURE
SENIOR EDITOR: JOHN FONTANA (303) 377-9057; Fax: (303) 377-9059
SENIOR EDITOR: JOHN COX (978) 834-0554, Fax: (978) 834-0558
SENIOR EDITOR: DENI CONNOR (512) 345-3850; FAX: (512) 345-3860
SENIOR WRITER: PHIL HOCHMUTH

■ NET.WORKER
MANAGING EDITOR: TONI KISTNER, (207) 878-8216

■ SERVICE PROVIDERS
SENIOR EDITOR: TIM GREENE
SENIOR EDITOR: DENISE PAPPALARDO, (703) 768-7573
SENIOR WRITER: MICHAEL MARTIN, (201) 556-1280

■ THE EDGE
MANAGING EDITOR: JIM DUFFY

■ ENTERPRISE APPLICATIONS
SENIOR EDITOR: ELLEN MESSMER, (941) 792-1061
SENIOR EDITOR: CAROLYN DUFFY MARSAN, (703) 917-8621; Fax: (703) 917-8622
SENIOR WRITER: JENNIFER MEARS, (608) 275-6807; Fax: (608) 275-6814
SENIOR WRITER: ANN BEDNARZ
STAFF WRITER: DENISE DUBIE

■ COPY DESK/LAYOUT
ASSISTANT MANAGING EDITOR: RYAN FRANCIS
COPY CHIEF: BRETT COUGH
COPY EDITORS: GREG CUSACK, JOHN DOOLEY, MONICA HAMILTON

■ ART
DESIGN DIRECTOR: ROB STAVE
ART DIRECTOR: TOM NORTON
SENIOR DESIGNER: BRIAN GAIDRY
GRAPHIC DESIGNER: JACY EDELMAN
ASSOCIATE GRAPHIC DESIGNER: NEVA TACHKOVA

■ FEATURES
FEATURES EDITOR: NEAL WEINBERG
MANAGING EDITOR, FEATURES: AMY SCHURR
OPINIONS PAGE EDITOR: SUSAN COLLINS
FEATURES WRITER: SUZANNE GASPAR

■ REVIEWS
TEST ALLIANCE DIRECTOR: CHRISTINE BURNS, (717) 243-3686
SENIOR REVIEWS EDITOR: KEITH SHAW, (508) 490-6527
TEST ALLIANCE PARTNERS: JOEL SNYDER, Opus One; JOHN BASS, Centennial Networking Labs; BOB CURRIER, Duke University; BARRY NANCE, independent consultant; THOMAS POWELL, PINT; Miercom; THOMAS HENDERSON, ExtremeLabs; TRAVIS BERKLEY, University of Kansas; DAVID NEWMAN, Network Test; CHRISTINE PEREY, Perey Research & Consulting; JEFFREY FRITZ, West Virginia University; JAMES GASKIN, Gaskin Computing Services; MANDY ANDRESS, ArcSec; GREG GODDARD, University of Florida
CONTRIBUTING EDITORS: DANIEL BRIERE, MARK GIBBS, JAMES KOBIELUS, MARK MILLER

■ NETWORK WORLD FUSION
EXECUTIVE EDITOR, ONLINE: ADAM GAFFIN
MANAGING EDITOR: MELISSA SHAW
EVENTS EDITOR: SANDRA GITTLEN
MANAGING EDITOR, ONLINE NEWS: JEFF CARUSO, (516) 520-4954
MULTIMEDIA EDITOR: JASON MESERVE
ONLINE COPY CHIEF: SHERYL HODGE
WEB PRODUCER: CHRIS CORMIER
ONLINE GRAPHIC DESIGNER: ZACH SULLIVAN

■ SIGNATURE SERIES
EDITOR: BETH SCHULTZ, (773) 283-0213; Fax: (773) 283-0214
EXECUTIVE EDITOR: JULIE BORT, (970) 468-2864, Fax: (970) 468-2348
COPY EDITOR: BRETT COUGH

EDITORIAL OPERATIONS MANAGER: CHERYL CRIVELLO
OFFICE MANAGER, EDITORIAL: GLENNA FASOLD
EDITORIAL OFFICE ADMINISTRATOR: PAT JOSEFEK
MAIN PHONE: (508) 460-3333
E-MAIL: first name_last name@nww.com

SIM attracting new players, rivalries

■ BY ELLEN MESSMER AND DENISE DUBIE

Network security industry leaders Check Point Software and Symantec this week separately plan to make announcements regarding security information management, a fledgling technology that until recently has been available mainly from relatively unknown vendors.

SIM software is used to collect and make sense of output data from a host of different vendors' security products ranging from firewalls to intrusion-detection systems (IDS). Companies can use the information to get a big-picture view of their network's security status and with more advanced SIM tools, take immediate action to address potential or actual intrusions.

Check Point will outline its Security Management Architecture (SMART) road map, part of which involves the company asking other vendors to build into their products a set of APIs that Check Point can exploit through a new management console called the SMART OPSEC Manager. The console will be designed to collect information on security events, relate them to one another, and let administrators exert policy controls over multivendor equipment, according to Upesh Patel, Check Point's OPSEC manager.

OPSEC is the company's program for certifying that 300 other vendors' products work well with Check Point's firewall and VPN offerings. The question now is whether those and other vendors will be willing to work more closely with Check Point as part of the company's new SIM program. Details of the program will be shared at the annual OPSEC conference in San Mateo, Calif., this week. The situation is becoming political as large vendors start to go head to head in a SIM market that up to now has been the purview of smaller companies such as netForensics.

"Customers are asking us for a comprehensive security-management solution [too]," says Matthew Ward, a product manager at IDS vendor Internet Security Systems (ISS), which has signaled that it's not eager to help Check Point with its SIM ambitions.

Ward says ISS expects to have its SIM software, SiteProtector 2.0, out by year-end.

Other vendors, such as antivirus software maker Trend Micro, are getting behind Check Point's SIM effort, while others, such as Rainfinity, are on the fence.

"It takes time and resources to undergo the OPSEC certification process," which can be intrusive, says Paul LeMahieu, senior engineer and co-founder of Rainfinity, which makes OPSEC-certified clustering gear.

Symantec to announce product

Symantec likely will run into similar reactions when it announces its Security Management System 2.0 this week in New York.

The company says it had basic SIM capabilities in its first version of the product but has added real-time data correlation through the acquisition earlier this year of start-up Mountain Wave. Among the dozens of companies planning to be at Symantec's side is TippingPoint Technologies, which makes an intrusion-prevention appliance called UnityOne.

Also making a more aggressive run at the SIM market will be IBM Tivoli, which is expected to roll out Risk Manager 4.1 in mid-October.

Among other things, Tivoli plans to expand on the 50 or so security products Risk Manager already supports to include products from vendors such as Enterasys Networks, Sanctum and TripWire.

One likely result of bigger and better-heeled vendors focusing on SIM is that the technology will reach its potential sooner, observers say.

Gartner analyst John Pescatore says most SIM tools can do data normalization and reduction, but are weaker when it comes to more advanced SIM functions such as event correlation and device control.

"The products haven't reached that level of sophistication yet, and I don't expect to see it at least until the latter half of 2003," he says.

Matt Speare, director of IT risk management for Ohio Savings Bank in Cleveland, uses netForensics SIM software to help him more quickly pinpoint security incidents. Speare, now testing a beta version of netForensics 3.0, sees that the user interface has improved. But he adds that the kind of controls he'd like to see in the software are still probably years off.

"I'd like to see features that could see an event occurring and modify the device to prevent the event from spreading," Speare says. That would mean letting an automated action take place — something many security managers are still hesitant to do. ■

■ **Early adopters of SIM products share their experiences. PAGE 21.**

Corrections

■ In the story "From intrusion detection to intrusion prevention" (Sept. 23, page 72), it should have stated that Silent-Runner Inc. created the SilentRunner tool.

■ In the story "In the spin cycle" (Sept. 23, page 84), vendors for eCDN products should have been listed as: Cisco, Fantastic, F5 Networks and Volera.

■ In the story "Marconi looks to the future" (Sept. 9, page 42), it should have been reported that the company already has sold its medical, commerce and data systems divisions. It also has sold some real estate and its interest in an Italian lottery company.

ON OCTOBER 3RD
IT'S PAYBACK TIME

Now you can take your IT from costing money to making money.
Make every bit of your IT investment work for your business. And spend less on IT in the first place. Can you really do this? Mercury Interactive has spent 13 years helping 75% of the Fortune 500 in remarkable ways. Intrigued? Then make absolutely sure you get the facts on how our new Business Technology Optimization software and services can change your business forever. Sign up today at www.mercuryinteractive.com/btoevents

MERCURY INTERACTIVE

XCache revs up Web acceleration appliance

■ BY JENNIFER MEARS

BELLINGHAM, WASH. — Internet acceleration software maker XCache Technologies next week plans to introduce its first appliance, which the company says will let businesses speed up Web sites and Web-enabled applications without altering code or worrying about interoperability.

The XCompress 1400 is a single-purpose device that compresses HTTP content, thereby speeding throughput and reducing bandwidth demands, the company says. The product is built using the same Smart Compression Technology that is available in its XCompress software that intelligently routes compressed content only to browsers that can handle decompression.

"People want to install a product, and then instantly the Web site is faster. They don't want to do anything with programming," says Wayne Berry, CEO of XCache.

The XCompress 1400 requires no HTML changes or plug-ins and could be dropped into the network infrastructure, in front of a Web server, or in front of a load balancer supporting a server farm, for example.

Boxing it up

Some features of the XCompress 1400, XCache Technologies' first acceleration appliance, include:

- A single-purpose box that compresses outgoing HTTP traffic, including XML, Active Server Pages, Java Server Pages and HTML.
- 1U (1.75 inches) high, rack-mountable, with two 10/100M bit/sec network interface cards.
- Works with all platforms, Web servers and Web-enabled applications.

The XCompress 1400 marks a shift for XCache, which has focused on software products since it was founded in 2000. The move follows a similar step by competitor SpiderSoftware, which released its first appliance, SpiderBox, in May.

Analysts say the companies are smart to expand their offerings with appliances because users are looking for easier ways to handle Web acceleration and don't want to modify code or add software to servers.

Raymond Williams, a network developer at real estate listing company Northwest Multiple Listing Service in Kirkland, Wash., says he's been running the XCompress software for Microsoft's Internet Information Server for about two months and has seen dramatic improvements in site performance, and a drop in bandwidth demands. He says content is downloading up to 70% faster with the software, and he is no longer using all of his seven T-1 lines.

But he says he is looking forward to installing the XCompress appliance because he doesn't want to have to load software on all of his 20 Web servers. With the XCompress 1400 he can drop two devices, one for failover, in front of his servers and be done with it, he says.

"The reason we want hardware is because it's a lot cheaper and easier to manage. And we're expecting, quite frankly, a lot better throughput because it's a hardware device designed for this rather than having to put something on top of the operating system and everything else that you're doing," he says.

The XCompress 1400 will be available next month. It will cost less than $5,000. ■



Wondering what's the best solution for your voice and data networks?

We have your *answers.*

Miercom

The leading edge in networking information



Providing consulting and product testing services in:

✓ VOICE NETWORK
VoIP technology, IP PBX, IP Phones

✓ DATA NETWORK
LAN/WAN, Storage, Servers, Routers

✓ BUSINESS CONTINUANCE
Security and Survivability

"We have worked with Miercom on several Voice over IP reviews in the last several years. We have found their reviews to be both insightful and direct. The methods they use to do their testing are thorough and show 'out of the box' thinking to develop ways to test items that will be important to the readers. The feedback given to Cisco has been invaluable in our product planning. These evaluations assist not only the readers, but Cisco's customers as a whole by making our products better."

- Jonathan Davidson, senior manager, Technical Marketing at Cisco Systems, Inc.

www.miercom.com
1.800.MIERCOM
(1.800.643.7266)

Miercom is a proud member of the Network World Global Test Alliance

NetworkWorld Global TEST ALLIANCE

Reading someone else's copy of Network World?

Apply for your own
Free subscription today.

subscribenw.com/b02



Free subscription
(51 Issues)

To apply online go to
subscribenw.com/b02

subscribenw.com/b02

Apply for your

free

subscription today!

(A $255 value - yours free)

Infrastructure

■ TCP/IP, LAN/WAN SWITCHES
■ ROUTERS ■ HUBS
■ ACCESS DEVICES ■ CLIENTS
■ SERVERS ■ OPERATING SYSTEMS
■ VPNS ■ NETWORKED STORAGE

Staying connected during a disaster

Ascendent Telecommunications' system allows communication between officials in cases of emergency.

■ BY TONI KISTNER

WASHINGTON, D.C. — Worst-case scenario: Your firm must evacuate its facility, perhaps at a moment's notice.

Traditional disaster-recovery systems from IBM and Sungard keep an organization's data and voice communications connected, but what about the people? Scattered employees — corporate executives or government officials — need a way to communicate, regroup and continue to conduct business from anywhere.

Ascendent Telecommunications' new Continuity of Government (COG) system fills this need. AscendentCOG provides organizations seamless communications in the event of a telephone network outage or evacuation, the company says.

A server-based system, COG lets any remote device (cell, voice-over-IP or home office phone) perform like a telephone in the office, so single-mailbox, calling-plan and speed-dial features are retained. Users can dial the same extensions to reach the same colleagues they always do.

Ascendent's flagship product AscendentMX, which the company has offered since 1993, integrates cell and remote telephones to corporate phone systems, letting any remote device perform like a telephone in the office. When the user picks up either line, the other phone will stop ringing. Each time the remote user sends or receives a call on a remote device, the device first connects to the AscendentMX server, finds the user profile and provides a dial tone — a process that takes only a few seconds.

The new product, AscendentCOG adds useful features geared to helping key people in an organization, whether they are CEOs, high-ranking military officials, doctors or police. During an evacuation, an automated roll call feature simultaneously will call everyone on the system with instructions on what to do.

The network administrator can activate the feature remotely and program in messages and response requests such as "Press 2 if you've received this message," or "Press 3 if you've evacuated the building." COG also sends e-mail and Short Message Service messages.

"This is a step ahead," says Elizabeth Herrell, vice president of Giga Information Group. "But it's not for everybody. But when you need to reach key individuals, this is a good solution."

Events of the past year illustrate just how useful a product such as AscendentCOG can be. When the U.S. Senate's Hart Office Building was evacuated in January because of the anthrax scare, senators were each handed a cell phone on the way out the door. "But nobody knew how to call each other, how to receive calls and they were still somewhat dysfunctional," says Stephen Forte, Ascendent's co-founder and CEO.

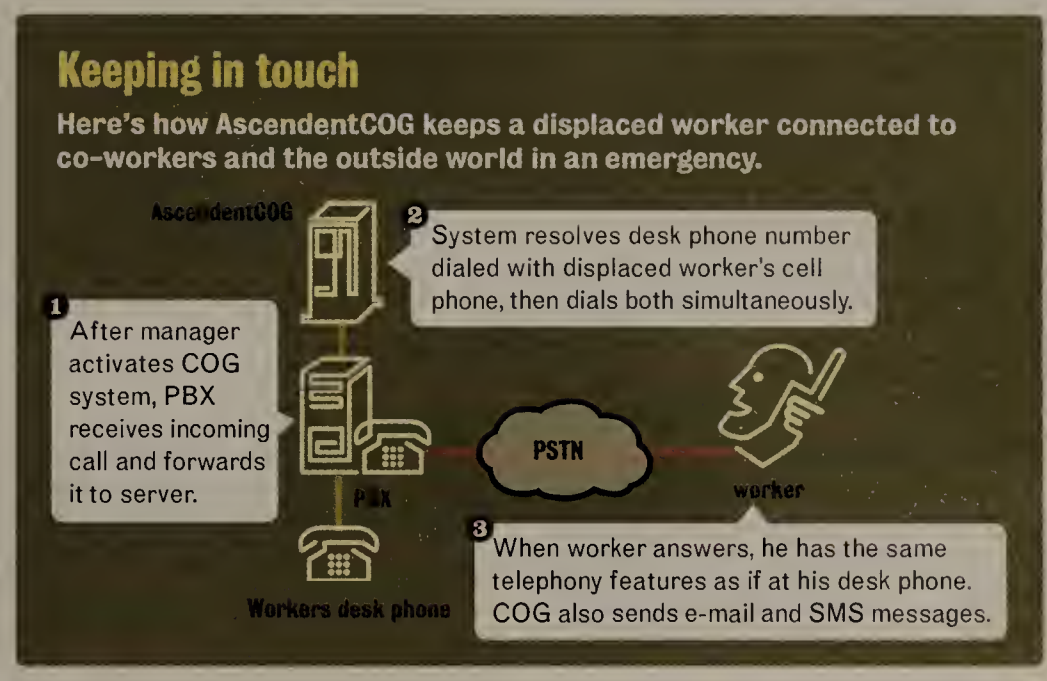
Moreover, in case of emergency, most organizations rely on a "calling tree" system to disseminate information, in which the top people call all those one layer below and so on. "The problem with this method was illustrated during the 9/11 attack on the Pentagon building, during which an entire layer of the calling tree was disabled," Forte says. "People on the lower end didn't find out the nature of the crisis for some time. But with COG, a senator sitting on a tractor out in the middle of Iowa can still send and receive calls, without changing his behavior whatsoever."

Ascendent offers the military an additional feature called MLPP, which lets high-ranking officials barge in on calls of subordinates, disconnect the call and take control of the circuit.

The company can host the system at its Irvine, Calif., facility with SBC Communications, or it can be run on a private network with the back-up system residing in Irvine.

Ascendent is targeting federal agencies,

See Ascendent, page 18



Short Takes

■ **Radware** has updated its application switch to support environments that have more than one Internet connection, so-called multihoming. **Web Server Director 7.30,** released last week, not only balances traffic among servers, but it also balances traffic loads among ISP links. With Web Server Director's health-monitoring capabilities, users can be assured that traffic is always directed to the best performing link, the company says. Web Server Director also ensures that applications make the best use of available infrastructure to perform at the highest levels, Radware executives say. Web Server Director 7.30 is available now, starting at $21,500.

Nortel looks to lock down Web servers and remote offices

■ BY PHIL HOCHMUTH

BRAMPTON, ONT. — Nortel this week will unveil an appliance it says can help companies process secure Web transactions more than three times as fast than they could with the previous version.

The Alteon SSL 410 is designed to let companies complete 2,000 Secure Sockets Layer (SSL) transactions per second, which could include secure credit card purchases over the Internet or file transfers over private extranets. The box also can maintain 16,000 SSL sessions, or users connected to a Web site with SSL encryption, per second. Comparatively, the Alteon SSL 310 could handle 600 encrypted transactions per second and 8,000 concurrent SSL sessions.

One other difference between the new and old box: Unlike the old one, the 410 is not compliant with the Federal Information Processing Standards (FIPS), which many government organizations require.

The 310 could be made compliant by adding a FIPS daughtercard to the box — which performs the FIPS-based security encoding. That card does not work with the 410.

The 410 competes with products such as Cisco's CSS 11500, which can sustain about 1,000 SSL sessions per second.

The 410 costs $25,000.

Nortel also released Version 4.7 of the software for its Contivity branch office routers. The software can give corporate WAN managers the ability to add more



Nortel's Alteon SSL 410 can handle twice as many secure sessions as its predecessor.

security and traffic management services to their Contivity boxes such as stateful firewall packet inspection, quality of service based on Layer 3 Differentiated Services traffic prioritization, and VPN tunneling. This can eliminate the need to replace or add more equipment to secure WAN connections, the company says.

Contivity boxes start at $1,000 when configured with up to 50 VPN tunnels and 10M to 15M bit/sec of Triple-DES throughput. ■

TOLLY ON TECHNOLOGY

Kevin Tolly



'Always on' programs pose an 'always on' threat

Try as they might to secure the enterprise — using firewalls, VPNs, intrusion detection and content filters — network managers are being defeated in droves ... by their co-workers.

The dramatic surge in "always on" third-party programs running on corporate desktops has set the stage for unknown havoc. The programs range from distinctly non-business peer-to-peer programs such as KaZaA — a Napster follow-on — to corporate remote access services such as ExpertCity's GoToMyPC.

These are not Trojan horses; they are legitimate services. Users download and install the client because they want the service. For network managers, though, such programs can create network performance headaches and set the stage for serious security breaches.

The KaZaA Media Desktop transforms a corporate desktop into a file server accessible worldwide. The default installation sets you up with a shared folder for the world to see.

While the primary content is MP3 audio, files are files. Should corporate files get into that folder, they are now available to the world. Users can assign any folder to which they have access to be indexed into the KaZaA system and thus free to the world. Imagine what a disgruntled employee could do "by mistake."

Even if the data is harmless, your corporate Internet link will get chewed up as users around the world grab files from that desktop. KaZaA is built to seek out the fastest machines and highest-speed connections as the preferred sources for downloads.

And what about the files your users bring in via KaZaA? So prevalent, apparently, are Trojans, viruses and SpyWare that the KaZaA home page advertises a recommended third-party utility, BullGuard, to defend your desktop. Scary.

KaZaA says its desktop software has been downloaded more than 119 million times. Chances are, it is already in your network. Time to start looking for it.

GoToMyPC, on the other hand, serves a legitimate corporate need — remote desktop access. It is built around a service provider model. And its architecture lets users bypass corporate firewalls.

Typically, firewalls are configured to look outside for trouble and assume that anything initiated from the inside is fine.

With GoToMyPC, an always-on client program residing on the desktop stays in constant contact with a GoToMyPC server. While the traffic load is not significant, there is a constant "heartbeat" between each client and the server. My network analyzer tells me so.

When the remote user wishes to access his desktop, he contacts the GoToMyPC service. After clearing two levels of password authentication, the target desktop appears.

From a system perspective, the session appears to be initiated from the unattended target PC so firewall authentication is not an issue.

The software works, I tried it. Because of the three-way nature of the architecture, benchmarking the speed was not possible.

While there is clearly no evil intention on the part of ExpertCity, I find it unsettling to have scads of corporate desktops in constant communication with a third-party service that, through its "mole," can determine how often your PC is busy, when you're in the office and so forth.

While the company offers packaged enterprise services, they don't offer an "opt out" for companies that don't want to let desktops in their domain use the service.

Network managers have to look within and start understanding the security and the performance implications of always-on code running on their desktops.

Tolly is president of The Tolly Group, a strategic consulting and independent testing company in Manasquan, N.J. He can be reached at ktolly@tolly.com.

Web Office rolls out all-in-one small office box

Appliances combine VPN, storage and file serving functions.

■ BY DENI CONNOR

AUSTIN, TEXAS — Start-up Web Office last week made its debut with network appliances designed to make it easier for small and remote offices to establish secure WAN connectivity.

The company's Virtual Private Storage Network (VPSN) ILANd boxes each combine the functions of a VPN router, Web server, network-attached storage (NAS) system and file server, and can share files in a peer-to-peer fashion. Web Office says the devices can be set up for inclusion in a VPN group in less than 10 minutes by even non-IT staff.

Web Office also offers an appliance dubbed ISERVer that can reside at a central site and be used to monitor the status of ILANds deployed in remote offices.

"The problem we saw was when we had colleagues in law firms and doctor's offices say it was too complicated for them to set up a networked infrastructure to run their businesses," says Luan Nguyen, a former IBM executive who is president and CTO of Web Office. "For the end user in a branch office, normally they would have to buy all these products, have very qualified IT staff install and configure them, and pay a lot of money for them."

Web Office will compete against traditional VPN product vendors such as Check Point Software and Cisco, and with distributed NAS companies such as Overx.com and Disksites. But observers say Web Office's combination of functions could set the company apart.

The 1U (1.75-inch high) ISERVers or ILANd appliances, which are powered by Intel Celeron processors, connect to workstations via 10/100M bit/sec Ethernet and to the Internet via T-1, cable modem or DSL connections. PCs linked to Web Office boxes can operate in a client/server fashion or, taking advantage of native Windows technology, work in a peer-to-peer setup.

Each appliance contains a Dynamic Host Configuration Protocol server and network-attached Integrated Drive Electronics (IDE) drives with capacities of up to 318G bytes. The appliances run an open source version of the Secure Shell for security purposes, although an IP Security-enabled appliance is also available. Multiple appliances can be daisy-chained to increase capacity.

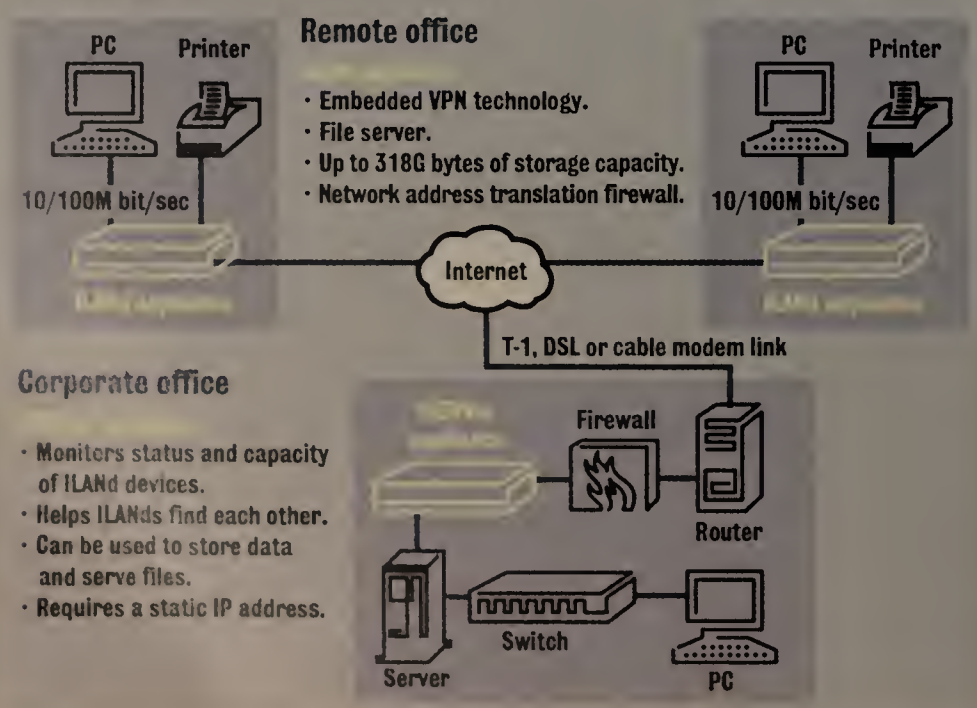
Web Office's products appealed to Vijay Sankaran, vice president of engineering for change management company Inventes, who put two ILANds in India and an ISERVer in Austin to handle the exchange of software code between overseas software developers and employees at the corporate office in the U.S.

"We wanted to rely on the local DSL in India, but did worry about the security of the information traveling between India and the United States. That [concern is taken care of] by the VPSN network," he says.

ISERVers start at $2,700 and ILANds at $1,800. Future releases will support Gigabit Ethernet, iSCSI and user management from within Windows Active Directory and domains. ■

Swiss army knife approach

Web Office says its ILANd and ISERVer appliances can eliminate the need for multiple network devices at remote sites and simplify management.



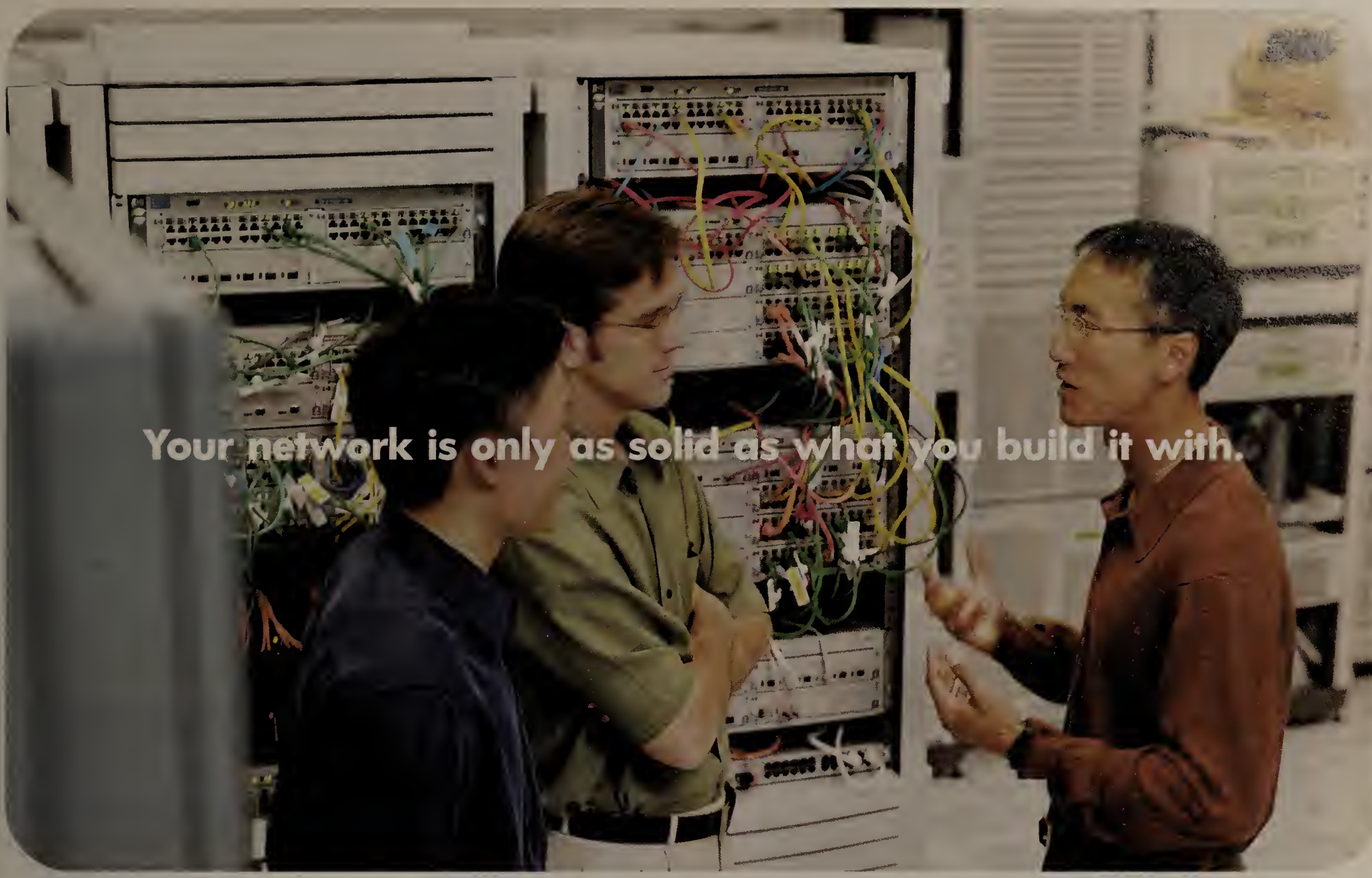
Storage
Subscribe to our free newsletter.
DocFinder: 5434 www.nwfusion.com

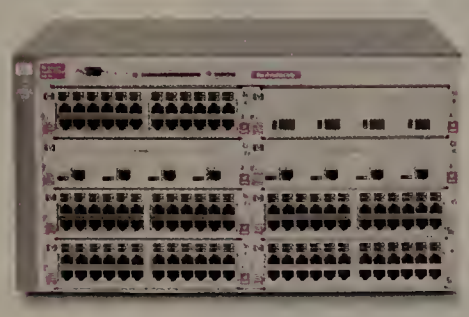
Ascendent

continued from page 17

the military and corporations. It recently installed a system for the U.S. Marines, and is working on locations for the Army. The firm also is setting up systems for the headquarters of customers Toshiba, Nextel, Disney, FedEx and Steelcase.

The component-based offering includes the Ascendent COG server and the Ascendent RS recovery server. It is designed for an organization that wishes to manage the entire system internally. An organization can also elect to purchase the Ascendent COG server and use Ascendent's hosted subscription service in place of a dedicated in-house recovery server. Pricing for this service ranges upward from $30,000 based on the number of ports and users supported. ■





Switch to HP Procurve and build it to last.

The new HP Procurve Switch 5300xl series delivers the fastest layer 3/4 features for the price of the competition's layer 2 modular switches. And HP Procurve switches are fully interoperable and scalable, making it easier than ever to add the switching capacity you need for current and future growth. These convergence-ready switches provide flexibility, high port density, free software upgrades and a lifetime warranty.

Now HP Procurve Networking gives you 3 unbeatable offers:

- Trade in any Cisco 2924, 2948, 3548, 4006 or 6500 switches with no trade-in limits when they are traded for HP Procurve 5300 series switches
- Get a $400 cash rebate on the HP Procurve 4148gl and up to $500 off mini-GBIC modules or transceivers
- Buy an HP Procurve 5300xl switch and get a free mini-GBIC module worth $1,299

Find out more at www.hpprocurve.com/lifetime or call us now to talk to an HP Procurve professional at 1-800-477-6111 extension 41682.

invent

© 2002 Hewlett-Packard Company. All rights reserved. For full terms and conditions visit www.hpprocurve.com/lifetime.

THE STRAIGHT GOODS ON SYBASE DATABASES.

THINK THE DATABASE WARS ARE OVER?

YOU CAN'T SELL THAT ON WALL STREET.

The Software Integration Company.

We can help you integrate all the data and business applications in your enterprise and extend them to any location in the world. So you can improve efficiency while preserving your existing infrastructure investments.

Sybase knows a few things about the financial services industry. After all, our database technology powers more than half the trades on Wall Street. And our subsidiary, iAnywhere Solutions, is the mobile database leader and the fastest growing vendor in the embedded database market.

But we're not just big on database market share. We're big on databases. How big? Our robust relational database management systems are capable of powering the world's largest data warehouses. And nearly half the phone calls in the People's Republic of China depend on Sybase technologies.

So it's safe to say the database wars are far from over. In fact, they've only just begun. Visit sybase.com/integrationsolutions for more information on Sybase's wide range of database and integration products.

SYBASE®
Information Anywhere™



SYBASE DATABASE TECHNOLOGY.
EVERYTHING WORKS BETTER WHEN EVERYTHING WORKS TOGETHER.™

©2002 Sybase, Inc. and Financial Fusion, Inc. All rights reserved. All trademarks are the property of their respective owners.

Enterprise Applications

■ PORTALS ■ MESSAGING/GROUPWARE
■ E-COMMERCE ■ SECURITY
■ NETWORK MANAGEMENT ■ DIRECTORIES

Users shoring up net security with SIM

■ BY DENISE DUBIE

Matt Speare estimates that it would require a staff of nine to monitor just one security event console consolidating logs from 30 devices 24-7 on his network at Ohio Savings Bank in Cleveland.

"And that's including weekend coverage, with no breaks, no lunch and no sick days," he says. Speare, director of IT risk management at Ohio Savings, quickly does the math again and concludes, "Obviously, that type of round-the-clock management with staff is cost-prohibitive."

To address the problem, Speare turned to security information management (SIM) software, an increasingly popular type of product designed for automating the collection of event log data from security devices and helping users make sense of it through a common management console.

Security Information Management
EARLY ADOPTERS

Ohio Savings uses netForensics' Security Information Platform, which cost it about $55,000 in hardware and software to install — half of what Speare estimates it would have cost the bank to outsource its security management.

"There's a huge return on investment for us," he says.

Spelling out SIM

SIM products use data aggregation and event correlation features similar to those of network-management software and applies them to event logs generated from security devices such as firewalls, proxy servers, intrusion-detection systems and antivirus software. What's more, SIM products can normalize data — that is, they can translate Cisco and Check Point Software alerts, for example, into a common format so the data can be correlated.

Like network-management software, SIM tools generally consist of server software, agents installed either on servers or security devices, and a central management console.

SIM providers range from smaller companies such as netForensics, Network Intelligence, GuardedNet, Intellitactics and OpenService to more established players such as Computer Associates, IBM Tivoli, Micromuse and NetIQ (see related story, below).

Charles Kolodgy, Internet security research manager at IDC, says companies have lots of choice when it comes to SIM: Vendors find the market attractive in that IDC estimates it is worth $15 million today and is set to quadruple to $61.3 million by 2005.

But he warns that many products are immature.

"These tools are great to collect and correlate events, but they offer little control over the security infrastructure," he says.

While vendors have adopted the SIM moniker, industry analysts prefer to call most of the products security event managers. Pete Lindstrom, a research director with Hurwitz Group, says the latter better describes what the current software offerings actually do, while SIM refers to a broader set of tasks the tools eventually should evolve to perform.

Real-world experiences

Charles Watson, data network specialist for Cellular South in Jackson, Miss., says his netForensics software actually pinpointed vulnerabilities in his network upon installation. Apparently, some end users unwittingly had tapped into open ports unbeknownst to the security staff.

"We had no idea those ports were open until the software pointed it out," Watson says. Because netForensics "logs everything," Cellular South could plug those holes and prevent a possible security breach — "and without running around to each server," he adds.

While Speare and Watson reported relatively easy SIM implementations, Jeffrey Hormann says the software requires a fair amount of upfront work.

Hormann, director of technology operations at Metromedia Fiber Network in White Plains, N.Y., says it took him about a month to get e-Security's e-Sentinel software product operational on his network.

See SIM, page 22

Keeping it SIMple

Early adopters of security information management (SIM) products say such offerings must:

- Correlate security events in real time.
- Collect and filter alarms from a large variety of firewall, intrusion-detection and other security systems.
- Include an easily scripted agent to add support for other security systems.
- Require little configuration to start collecting events.
- Boast strong reporting features.
- Perform their own security functions, such as pinpointing network vulnerabilities.

Short Takes

■ XML database vendor **Excelon** has unveiled Version 3.1.2 of its **Extensible Information Server database** and **Version 4.5 of its Stylus Studio development tools.** Excelon is positioning its database as a gateway for handling and storing XML data during a live transaction before handing it off to a traditional relational database with XML support for permanent storage. With XIS 3.1.2, Excelon is adding support for the XQuery standard, full-text search powered by Verity software, Microsoft .Net support and an entry-level configuration for pilot projects. Stylus Studio 4.5 works with extensible stylesheet language transformation processors from Saxon and .Net., an XML-to-HTML WYSIWYG editor, an XQuery editor/debugger and an automatic schema documentation editor. XIS costs $45,000 per CPU, $15,000 for the entry-level version. Stylus Studio is $400 per seat. www.exln.com

■ **ServGate Technologies** next month will ship a gateway appliance that combines the functions of firewall, antivirus and VPN products. The basic **ServGate EdgeForce** unit supports 75M bit/sec speed at the firewall with 16,000 simultaneous users. Performance module upgrades ratchet up the speed supported to 150M bit/sec. ServGate has licensed the antivirus component from Network Associates. The product starts at $800. www.servgate.com

NetIQ upgrades security mgmt. tools

NetIQ next month will boost its security information management offering by enabling it to collect data from a wider selection of vendors' security products and by improving its reporting capabilities.

NetIQ is extending its Security Manager to oversee Check Point Software firewalls, TrendMicro antivirus systems and Internet Security Systems' RealSecure intrusion-detection systems (IDS). Earlier versions added support for Cisco Secure Pix Firewalls and Symantec and Network Associates/McAfee antivirus products.

NetIQ, which has specialized in managing Microsoft networks, also has a Unix agent for Security Manager in the works.

"Being vendor-agnostic would be the ultimate goal for any security event management product," says Charles Kolodgy, Internet security research manager at IDC.

Kolodgy says that while SIM products from companies such as e-Security and netForensics might offer more vendor support out of the box, products from companies such as NetIQ and IBM Tivoli help users go beyond collecting data to gaining real control of their networks.

"NetIQ can offer some lockdown features and do a bit more analysis" than some security-centric tools, he says.

Security Manager 4.0 costs $35 per workstation, $900 per server for the Basic Windows Agent and $1,500 per server for the Advanced Windows Agent. Add-on modules to manage firewalls, IDS and antivirus systems range widely in price — from $150 to $1,500, depending on the need to deploy sensors near devices to be monitored.

— Denise Dubie

Gartner: Negotiate CRM licensing terms carefully

■ BY ANN BEDNARZ

Companies have to live with the terms and conditions struck in a CRM license agreement for many years, so due diligence is key.

That's the point analyst Jane Disbrow makes in a Gartner research report published last week, "Ten CRM License Agreement Issues Worth Negotiating."

Disbrow, a research director at Gartner, details 10 issues that companies should address before sealing any CRM software deal. "Remember that a software vendor's contracts protect the vendor, not you," she warns.

Broad usage rights are critical. Make sure they include a parent organization and subsidiaries or affiliates, Disbrow wrote. Include the right to transfer licenses in case of a merger, acquisition or divestiture, she says.

When establishing pricing metrics such as "concurrent user" and "named user," be specific. Prices based on financial metrics such as revenue or budget are especially risky, Disbrow says. If they can't be avoided, clearly define what will be included and excluded. For example, Disbrow says, what happens if a one-time event spikes a company's revenue higher, but for only one year?

Certain customer changes should be covered without fees. Companies should be able to change the location of the software or transfer it to another vendor-supported hardware platform, operating system or database, without penalty, Disbrow says.

Additional issues that Disbrow tackles include setting terms for replacing functionality; defining a vendor's conformance with documentation; establishing vendor audit rights; incorporating sales documents into the final agreement; and negotiating a long-term cap on maintenance increases.

To see the full report, go to Gartner's Web site at www.gartner.com. Disbrow's licensing report cna be found among the firm's CRM focus area research. For non-Gartner clients, the report costs $95. ■

SIM

continued from page 21

"It's not out-of-the-box ready to go," he says. "It took a bit of effort to get it rolled out [and customized]."

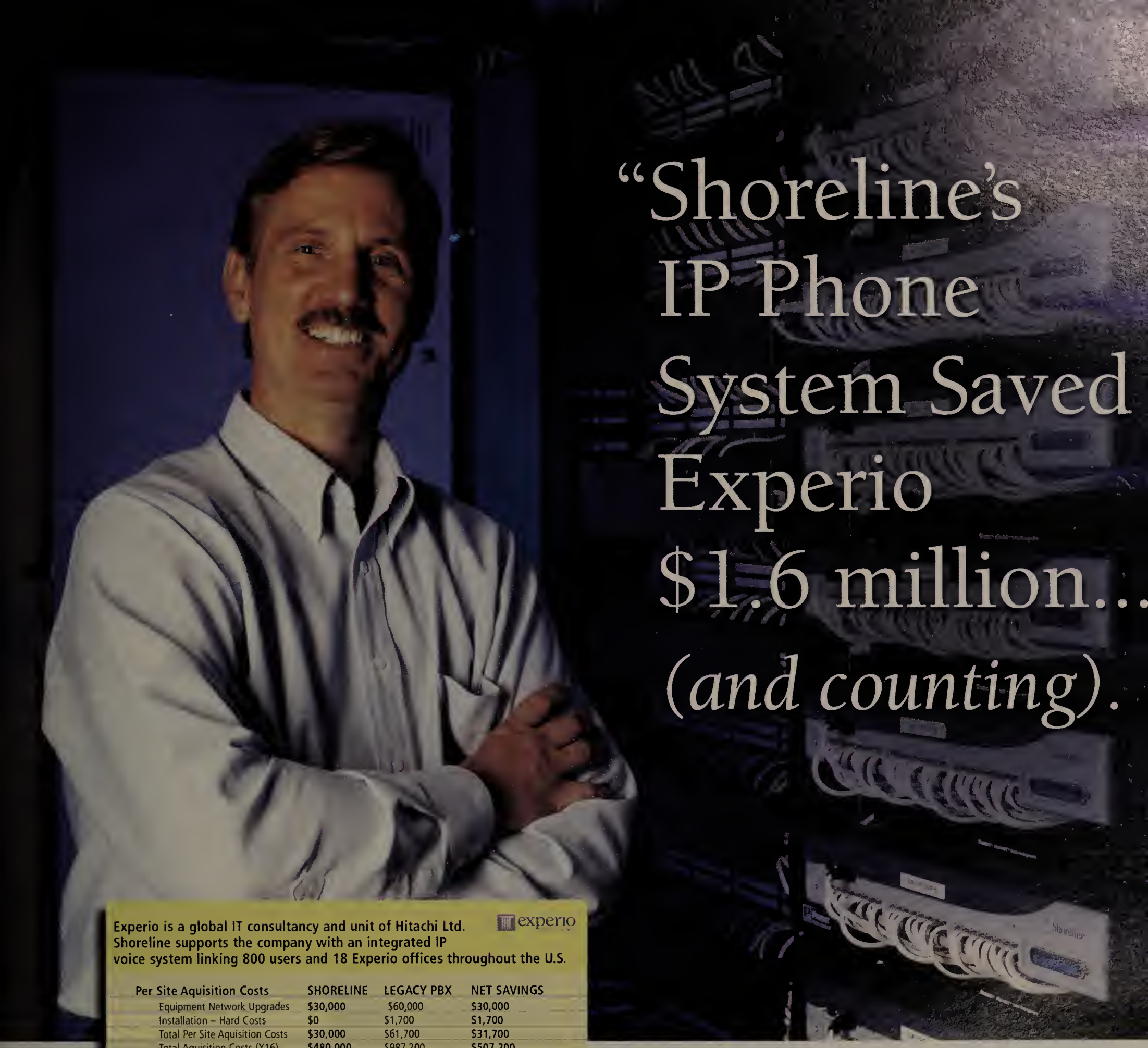
Yet Hormann says e-Sentinel has saved him from hiring a dozen security specialists and lets him offer more services with a downsized staff.

SIM users and industry watchers agree that while the software can serve as an extra set of eyes across security devices, the tools need to evolve to take corrective actions.

"Security event managers want to be smart and to ultimately move toward being able to prioritize assets and applications without much configuration from users," Hurwitz's Lindstrom says. "We're probably one or two generations of software away from policy- and configuration-based security information management software." ■



Security
Subscribe to our free newsletter.
DocFinder: 5434 www.nwfusion.com



"Shoreline's IP Phone System Saved Experio $1.6 million... *(and counting).*

Experio is a global IT consultancy and unit of Hitachi Ltd. Shoreline supports the company with an integrated IP voice system linking 800 users and 18 Experio offices throughout the U.S.

Per Site Aquisition Costs	SHORELINE	LEGACY PBX	NET SAVINGS
Equipment Network Upgrades	$30,000	$60,000	$30,000
Installation – Hard Costs	$0	$1,700	$1,700
Total Per Site Aquisition Costs	$30,000	$61,700	$31,700
Total Aquisition Costs (X16)	$480,000	$987,200	$507,200
Annual Costs			
Management	$39,600	$72,000	$32,000
Maintenance (Based on 10.1%)	$48,480	$129,280	$80,800
Long Distance	$30,000	$151,000	$121,700
TCO Per Year	**$118,080**	**$352,280**	**$234,200**
Total Savings Over 5 Years			**$1,678,200**

"Shoreline reduced our system acquisition and installation costs by more than $500K, and helped us reduce our ongoing voice network expenses by more than $200K per year."

Michael Shisko, IT Director, Experio Solutions

Your existing phone system is costing you more money than you think. To learn how a Shoreline IP Voice System can drastically reduce your company phone expenses while adding more features and solid reliability, call **1-877-80SHORE** or visit: http://**savings.goshoreline.com**

Shoreline™

Robust IP Phone Systems

© Copyright 2002 Shoreline Communications and the Shoreline Communications logo are registered trademarks of Shoreline Communications, Inc

'NET INSIDER

Scott Bradner



What are they so worried about?

Earlier this year the Federal Communications Commission gave very limited approval to the initial commercial development of ultrawideband wireless technology. This was over vehement objections on a number of fronts.

The objections have not gone away either. Just a few weeks ago a scare story popped up in the news from England where, the claim was, authorities were thinking of banning all laptop computers from airplane carry-on luggage because they couldn't tell if a particular laptop might have an ultrawideband card in it.

The doom stories are well developed: planes falling from the sky, cars running into each other, cell phone service devastated and more. One would think that the UWB proponents were building tools for terrorists. Just why is a chirping radio such a threat, and to what?

UWB is hardly a new thing. It was developed more than 30 years ago, but has quite suddenly become all the rage well beyond the military research labs where it has quietly been worked on.

A Google search on UWB generated 5,270 hits, including one for quite a good story in the September issue of *Technology Review* magazine.

UWB works by sending out extremely short, broad spectrum chirps of radio waves. Originally designed to penetrate physical objects such as trees, the concept turns out to be quite flexible and can be used for a range of applications, from radars that can "see" through buildings to short-range, high-speed data network connections.

According to its critics, the very problem with UWB is that it uses broad spectrum chirps. The frequencies in these pulses overlap the frequencies used for other applications such as the global positioning satellite system that supplies input data to weather prediction systems and some cell phone systems. Because UWB uses overlapping frequencies, there will be some interference with existing systems, but there is disagreement over how significant that will be.

UWB proponents say that the interference will be minimal at worst, while opponents say it will be significant at best. The FCC has decided to try things out, much to the annoyance of opponents who have even managed to get the scientific geniuses in Congress to hold a hearing on the topic. (In case it's not clear, the above is sarcasm.)

I have two problems with the arguments of UWB opponents: First, they are far too strident; it has been my observation that whenever there is a scientific disagreement, the side that brings out the scariest scenarios is the side with the fewest facts on its side; and second, far too many of them have an economic reason to thwart the development of UWB.

By definition, UWB will cause some level of interference. But if the interference from the very low power transmitters that use UWB technology will significantly disrupt major infrastructure systems then we have a far more significant issue with the fragility of these systems to deliberate attack.

Disclaimer: One of Harvard's jobs is to develop graduates that will produce some level of interference with the status quo, but I know of no university policy on UWB.

Bradner is a consultant with Harvard University's University Information Systems. He can be reached at sob@sobco.com.



OUR MOST GENEROUS OFFER EVER!

Order Covad High-Speed Access by November 30th

FREE Equipment & Installation.

FREE Service For One Month.

FREE VPN/Firewall For Two Months.

COVAD®

Connect Smarter.℠

Save this reminder card and take advantage of our most generous offer ever. Call us or visit our Web site before November 30th.

FOR BUSINESS
www.covad.com/nw/offer

FOR HOME
www.covad.com/residentialservices

1-800-578-5495

COVAD®
Connect Smarter.℠

Offer based on rebate on new orders for TeleXtend T1 or TeleSpeed Service. Service not available in all areas.

Switch to the high-speed ISP that specializes in business.

Don't settle for the phone company's standard line. Let the business experts at Covad put together a high-speed Internet package that fits with the way you run your business today—and into the future. Choose from a full range of upgradeable, **high-speed connections (DSL and T1). Get Web and email hosting, select a custom domain, and protect your business with firewall and VPN services. Plus, Covad provides money-back guarantees*** on installation cycle times and network performance that are unmatched.

UPLOADS FAST DOWNLOADS

Sign up by November 30th for money-back rebates equivalent to:*

FREE EQUIPMENT & PROFESSIONAL INSTALLATION.*

FREE SERVICE FOR ONE MONTH.*

TWO FREE MONTHS OF VPN AND FIREWALL SERVICE.*

www.covad.com/nw/offer
or call 800-578-5495

"My firm had one of those generic, prefabricated Internet connections from the phone company. We needed to upgrade our speed so we could exchange blueprints online with our clients.

So, we switched to Covad."

COVAD
Connect Smarter.


The
“DISASTER HITS NETBACKUP™ RECOVERS”
storage software company.
FACT: VERITAS Software owns 48% of the backup and recovery software market for UNIX and Windows environments, according to a leading industry analyst.
veritas.com/netbackup
VERITAS™
Copyright ©2002 VERITAS Software Corporation. All rights reserved. VERITAS Software and the VERITAS Software logo are trademarks or registered trademarks of VERITAS Software Corporation. All other trademarks are the property of their respective owners.

ServiceProviders

■ THE INTERNET ■ EXTRANETS ■ INTEREXCHANGE AND LOCAL CARRIERS
■ WIRELESS ■ REGULATORY AFFAIRS

Savvis finds a niche in down market

IP VPN offering proves popular with clients seeking back-up network connections.

■ BY MICHAEL MARTIN

HERNDON, VA. — A number of capital-starved telecom outfits — from the very small to the very large — have gone bust during the past several months.

During that same period, a small, relatively unknown network services company called Savvis Communications has managed to raise more than $200 million in private backing, despite taking what has become almost an industry-standard beating on Wall Street. Savvis, which has been in business since 1996 and is nearing profitability with $250 million in annual revenue, follows a simple recipe, says CEO Rob McCormick: The company leases instead of building its infrastructure, which means it actually benefits from the glut of bandwidth in the market.

Savvis also concentrates its efforts on selling a small set of services, the cornerstone being its network-based IP VPN.



"Our whole product set is geared towards being a manged infrastructure provider for IP-based applications."

Rob McCormick
CEO, Savvis Communications

"Our whole product set is geared towards being a managed infrastructure provider for IP-based applications," McCormick says.

The core of the network is formed by an ATM backbone and Nortel Shasta VPN boxes. To hook customers to the network, Savvis gives them an integrated access device with an Ethernet handoff to the customer's edge router.

Once the customer premises box is in place, Savvis can use its customized management system to automatically provision the VPN connection.

Savvis supports frame, ATM, DSL and dial-up last-mile connections. The company currently operates in 112 cities in more than 48 countries.

David Willis, an analyst with Meta Group, says Savvis' strengths are that it's been in business longer than most small competitive providers and that it has a core of financial services customers.

Savvis began as a network provider serving financial firms with market data information. The company has expanded to serve other businesses. About half of the provider's 17,000 VPN nodes in service fall outside the financial services market segment.

"Enterprise buyers see a greater need for carrier diversity and that helps [Savvis]," Willis says.

A lot of businesses are calling Savvis looking for back-up network connections, McCormick says. The company has gotten a lot of interest from WorldCom clients.

"Of course since it's only a backup, they want a special price," McCormick says. "We're pretty flexible on that."

Michael Drennan, vice president of operations for auto parts wholesaler Precision Auto, recently signed on with Savvis to provide VPN links for 26 sales offices. The offices need to keep in constant touch with Precision's real-time auto parts database, housed on a server in Chantilly, Va.

Precision had switched from a frame relay network to DSL, but the DSL links didn't prove reliable. So Precision is now in the process of switching to Savvis' IP VPN service, which will use 128K bit/sec frame relay connections over the last mile.

Drennan says the Savvis service wasn't significantly less expensive than competing offers.

"But we were impressed that they'd made their name on Wall Street and their sales people were very technically competent," Drennan says.

Another factor in Savvis' favor was that Precision didn't have to buy customer premises gear, he adds.

While Savvis has had luck raising private funding this year, the company's fortunes on the stock market haven't been nearly as good. Savvis was delisted from the Nasdaq earlier this year for failing to meet the index's minimum share-price requirements. Savvis has since transferred to Nasdaq's Small Cap Market. On Sept. 20, the company's shares stood at 37 cents, well off its 52-week high of $1.45.

But, Willis says, few telecom companies have fared well in the stock market this year. ■

Short Takes

■ Application service provider **Corio** has completed its purchase of fellow ASP **Qwest Cyber Solutions,** bringing on some 50 new customers. Corio announced the deal in August saying it would buy the ASP assets from Qwest, which earlier this year integrated the formerly independent QCS into its Web hosting business. With the deal, existing QCS customers will continue to be physically located in Qwest data centers, but will be serviced by Corio. Corio now has access to the Qwest infrastructure to expand its operational capabilities, the company says.

■ **Sprint** announced last week it is selling its directory business to **R.H. Donnelley** for $2.3 billion. While Sprint would not say if the money will be used solely to reduce its $21 billion debt, a spokesman said the deal will "improve Sprint's financial flexibility." Sprint is the latest carrier to sell its Yellow Pages business to strengthen its balance sheet, following British Telecom, McLeodUSA, Qwest and Canada's BCE.

BellSouth, SBC near long-distance wins

■ BY MICHAEL MARTIN

Two regional Bell operating companies recently have made big strides in their efforts to offer long-distance services in their local service regions.

BellSouth filed applications with the Federal Communications Commission for its final two states, Tennessee and Florida, while SBC Communications filed an application for its largest state, California.

BellSouth already has won FCC approval for seven of its nine local states and would be the first RBOC to be able to offer long-distance voice and data throughout the U.S. if its Florida and Tennessee applications are approved. The FCC has 90 days to judge the applications.

Under the Telecommunications Act of 1996, the RBOCs — BellSouth, Qwest, SBC and Verizon — must prove they are giving competitors access to their networks in states where the RBOCs are the dominant local carriers.

Getting long-distance approval for all of its local states would remove a big barrier to any merger of BellSouth with AT&T — a possibility that was much speculated about earlier this year.

However, says Thomas Nolle, president of consultancy CIMI and a *Network World* columnist, the deal isn't as likely to happen now because of WorldCom's bankruptcy. AT&T stands to benefit from WorldCom's woes and is less likely to need a partner to keep its financial numbers steady, he says.

"I'd put the odds at 2-to-1 against anything happening," he says.

California and its $10 billion long-distance market would be a major feather in SBC's cap. SBC already has won long-distance approval for five of its 13 local states.

The California Public Utilities Commission ruled that SBC has passed a 14-point competition checklist contained in the telecom act, a necessary first step before an FCC application. However, the commission also ruled that SBC's entry into the long-distance market would not be in Californians' best interests because SBC might drive competitors out of the state.

The commission would like to bar SBC from carrying long-distance services within California, while letting the carrier handle long-distance between California and other states. Whether the commission has the authority to enforce such a decision isn't clear, as the FCC has yet to weigh in. ■

EYE ON THE CARRIERS



Johna Till Johnson

Why the cable companies will win

Here's a question I get a lot: Who will win the local broadband wars, the telephone companies or cable companies?

There are good arguments on both sides, but my money is on the cable companies. Here's why:

Customers. While it's indisputable that the telcos have the broadest customer base, cable companies have done a good job grabbing consumers who are most likely to spend money on broadband services. There's a pretty good correlation between households willing to pay for their weekly "Sopranos" fix and those who own computers and have Internet access. It's also worth noting that these households are among the most likely to support one or more telecommuters — individuals with a clear business need for broadband (and potentially a deep-pocketed employer willing to foot the bill).

Cannibalization. Telcos are notoriously leery of service cannibalization, and are concerned about the ways that DSL cuts into their existing service portfolio. As a result, you almost never see DSL offered until after the local cable companies have made cable Internet available. It's almost comical: First, the ILEC tells eager customers that DSL is "unavailable in their region." Then RoadRunner or RCN moves in — and suddenly DSL becomes "available." Cable companies, on the other hand, have nothing to lose and everything to win by moving in aggressively.

Service portfolio. This is a biggie. Years ago, AT&T did a study that showed that bundling services is an effective way to retain customers. It's true. For example, I get local and long-distance voice, plus cable and cable Internet, from my local cable provider (I've used both Time Warner and RCN). It's great! The rates are so competitive that my average monthly bill has dropped from $200 to $300 down to about $120. And even though my phone service is a little spottier than I'm used to, and Internet access tends toward mid-afternoon outages, I'm hooked. I wouldn't go back if you paid me (sorry, Verizon).

Service platform. A few weeks ago, I made the case to *Network World's* editorial director and president, John Gallant, that AOL Time Warner was the communications company most likely to succeed in the 21st century.

I admit to having taken a somewhat radical stance, but here's my rationale: As an entity that can offer infrastructure (cable), services (such as AOL and AOL Instant Messenger), and content (movies, books and music), AOL Time Warner is in a virtually unparalleled position to reshape the communications industry in much the way that IBM redefined the computing industry in the '60s and '70s by owning hardware, software applications, and services. It's not a new idea, but it's still a good one.

The caveat? It appears that cable companies are possibly the only organizations that are more dysfunctional and poorly managed than telecom providers. But I'm hoping that some smart cable company — maybe even AOL Time Warner — will recruit a 21st century Lou Gerstner and realize cable's true potential.

Johnson is senior vice president and CTO for Greenwich Technology Partners, a network consulting and engineering firm. She can be reached at johna@greenwichtech.com.



Finisar

Complete SAN LAN performance tools.

Finisar has been offering its customers the tools necessary to increase efficient network operation for over 14 years. Finisar's family of network analysis and performance testing products ensure optimum performance through constant monitoring, measuring and analysis; locating and repairing problems before they cause an impact.

Listening to customer needs, we develop products that are flexible and scalable to grow and evolve with today's SAN and LAN environments. No other company offers products as easy-to-use and easy-to-implement.

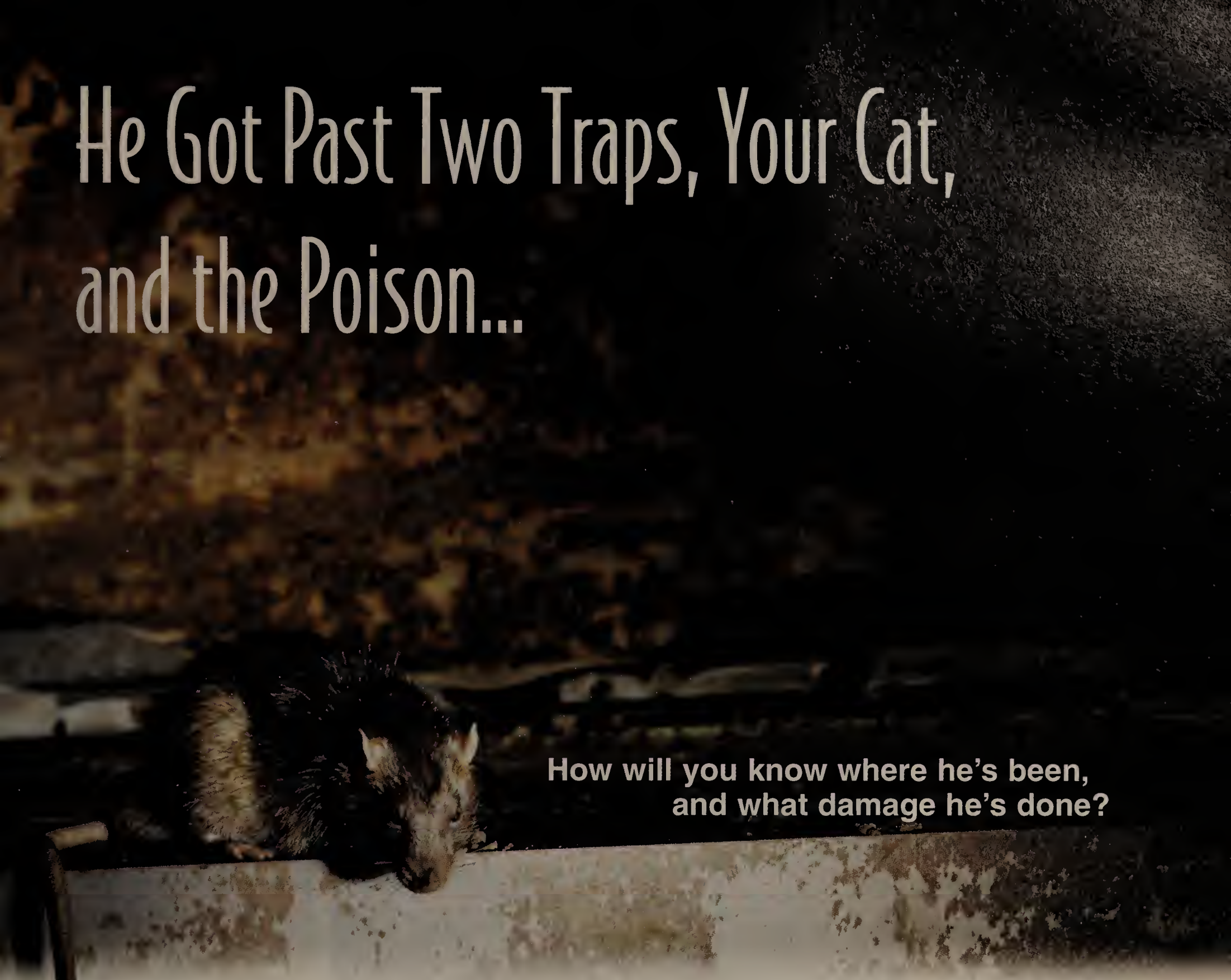
Take a test drive.

Remove the gridlock from your network. Test drive Finisar Performance Tools at www.finisar.com/testdrive

Gartner IT, Orlando ● CTIA Wireless, Las Vegas
San Diego, San Francisco, Seattle, Chicago, Dallas, Atlanta, Boston & New York
for more details.



He Got Past Two Traps, Your Cat, and the Poison...



How will you know where he's been, and what damage he's done?

Tripwire is The Data Integrity Assurance Company

Tripwire® establishes a baseline of data in its known good state, monitors and reports any changes to that baseline, and enables rapid discovery and recovery when an undesired change occurs.

Foundation for Data Security
- Ensure the integrity of your data
- Instant assessment of system state, reporting "integrity drifts"

Maximize System Uptime
- Eliminate risk and uncertainty
- Enable quick restoration to a desired state

Increase Control and Stability
- Ongoing monitoring and reporting

Lower Costs
- Find and fix problems quickly and precisely – no more guess work

Your firewalls and intrusion detection tools alone are not enough to keep systems trustworthy. Tripwire's data integrity assurance products are the only way to know with 100% confidence that your data remains uncompromised. For nearly 10 years Tripwire has been helping IT professionals know exactly what's changed on their systems, and helping them to recover quickly.

For a FREE 30-day fully-functional eval, call toll-free: **1.800.TRIPWIRE** (874.7947) or visit http://**networld.tripwire.com** today!

TRIPWIRE®
THE DATA INTEGRITY ASSURANCE COMPANY

© Copyright 2002. Tripwire and the Tripwire logo are registered trademarks of Tripwire, Inc.

Special Focus

SERVICE PROVIDERS: CDNs look to speed Web apps.

Content delivery networks eye Web services

■ BY JENNIFER MEARS

Doug Cavit, CIO at security software maker McAfee.com, has long been a proponent of content delivery networks. The company was a pioneering user of Akamai Technologies' edge delivery services, and Cavit says that by running about 60% of his traffic from the edge, he's avoided the need to add hardware while keeping performance levels high.

Now he's ready to take the next step.

McAfee is working with Akamai as it readies a new service aimed at supporting Microsoft .Net, one of several Web services initiatives that are under way at CDN companies. During the past year or so, CDNs have evolved from simply supporting static content to handling streaming media and dynamic content assembly. The next move for these companies is boosting the performance of Web-enabled applications.

"All the pieces are starting to come together," Cavit says. "They're coming together to allow you to be able to use the CDN as an execution platform ... you won't just be creating Web pages, you'll actually be creating services on the edge."

The move is happening slowly as companies start to understand how so-called Web services can benefit their businesses. Web services are XML-based application components that can be cobbled together on the fly using standards such as Simple Object Access Protocol for their transport. The idea is that disparate applications can communicate with each other over the Internet, enabling business-to-business connectivity without proprietary middleware.

Because Web services will travel over HTTP and TCP/IP, operators of CDNs say their networks will fit perfectly into the puzzle. CDNs helped improve the performance of the Internet by pushing content closer to end users, and analysts say they could do the same for Web services, which will face similar bottlenecks.

"CDNs, having pieces of the application that run near to the users, will play an important role in Web services," says Peter Christy, co-founder of NetsEdge Research Group. "You will have to do exactly what a CDN did for the dot-com world, which is to move things nearer to the points of use, rather than counting on them getting across the Internet on their own."

But Christy says that in early stages of Web services deployment, the need for CDNs might not be great because of the relatively small number of companies using Web services. As Web services become more prevalent and companies seek ways to integrate with multiple systems, CDNs might turn out to be the key to ensuring the smooth flow of these Web-enabled applications.

"But that's the million-dollar question because we don't know where the Web services market is going to go. We don't know what those killer applications are going to be," says Greg Howard, an analyst at the HTRC Group.

The market is developing — albeit slowly, according to a recent study by IDC, which concluded that companies see benefits in the Web services architecture, but most are proceeding with caution. The survey of more than 750 businesses found that four out of five respondents plan to undertake Web services projects during the next three years, but only one in four already have completed an internal Web services deployment.

Preparing for Web services

CDN operators say they can speed the delivery of Web services. Here's how some are moving in that direction:

- **Akamai Technologies:**
  Announced partnerships with Microsoft and IBM to support application processing at the edge. Akamai EdgeSuite for Java based on IBM WebSphere to be available Q2 next year; EdgeSuite for .Net could be available by the end of 2003.
- **Cable & Wireless:**
  Introduced 2Way Web Services, modular pieces of application components that let business charge for specific content, for example. Company says it's a first step toward Web services support.
- **Conxion:**
  Says Hot Route delivery technology on its private global network will appeal to corporations not willing to put applications on the Internet.
- **Mirror Image:**
  Plans to update content access points to support Java and .Net and roll out services next year. Web Services Delivery Gateway will provide centralized management of applications so business can control security, monitoring and billing of Web services.
- **Speedera Networks:**
  Will update monitoring and management tool SpeedEye and enhance intelligent edge services such as authentication, personalization and targeting content for specific locations to support Web services.

Nevertheless, CDN providers are wasting no time in laying out their plans to support Web services. Akamai has announced partnerships with IBM and Microsoft to support application processing within its global network of nearly 13,000 edge servers. Mirror Image also detailed its Web services push earlier this year, announcing that it would enhance its network of content access points to support .Net and Java 2 Platform Enterprise Edition.

Other providers, such as Cable & Wireless, Conxion and Speedera Networks, are keeping a close eye on the market's development. They say they're ready to support Web services when the time comes — the question is when.

"We decided that [Web services] may be a bit further out than we thought," says Scott Bishop, director of product marketing at Mirror Image.

Mirror Image had planned to roll out Web services support by year-end, but now instead plans to unveil that capability next year. In the meantime, the company is focusing on supporting Web-enabled transactions.

"There are a ton of [electronic data interchange] transactions out there today that are on private networks that are transitioning over to an Internet-based EDI model. That's a perfect play for us in terms of creating a Web service infrastructure that can deliver an Internet-based EDI solution to these large enterprises," Bishop says.

Akamai also has pushed back plans to release Web services capabilities, which had been slated for year-end. Thorsten Ganz, director of marketing at Akamai, says beta testing for Java processing at the edge will begin in the first quarter of next year, with general availability slated for the second quarter. Services based on .Net will be introduced by the end of next year, but timing depends on Microsoft's schedule for the .Net server, which already has been delayed, he says.

McAfee's Cavit expects to use Akamai's .Net capabilities to provide a subscription-based antivirus service on the Web. Now customers can get software downloads quickly because they are accessed from Akamai's edge servers. With .Net, however, McAfee can move authentication processing to the edge, reducing costs by eliminating the need to add hardware, Cavit says.

Cavit says he envisions eventually hooking his system into a third-party application that takes payment transactions, all processed at the edge.

Using Web services "really is a big paradigm shift," Cavit says. "It opens up a whole new interesting set of ways of going about building the Web and it opens the door on the concept of utility computing and things like that ... that operate via CDNs or overlay networks."

But before CDNs can take their place in the Web services, businesses must adopt this new technology. One of the big hurdles to adoption is the question of security. CDNs tout the security they already have in place for content delivery. Web services vendors also are taking a hard look at how to beef up security for these untethered applications. IBM, Microsoft and VeriSign developed Web Services Security, a specification for securing the exchange of Web services messages. The Organization for the Advancement of Structured Information Standards is reviewing that specification as a proposed standard.

When those types of issues become hardened more companies will consider Web services and might look to the overlay networks provided by CDNs to ensure that the applications achieve the performance they need.

Sean Armstrong, senior Internet manager at software maker Network Intelligence, says he uses Web services internally, but would consider a CDN for delivery once issues such as standards, security and workflow become more mature.

"The idea of utilizing a globally distributed high-speed infrastructure as the transport layer for Web services is appealing on many levels," he says. "Along with vast improvements in delivery throughput to points around the globe, the simple fact that there is another item of concern — reliable and cost-effective data transfer — I can get off my plate makes it worth the time to implement this service." ■

The Edge

■ SERVICE PROVIDER DEVELOPMENTS AT THE JUNCTURE BETWEEN THE ENTERPRISE AND THE NEW PUBLIC NETWORK

CommWorks drops, but plugs along

3Com subsidiary endures consecutive quarters of declining revenue.

■ BY PHIL HOCHMUTH

ROLLING MEADOWS, ILL. — When 3Com spun off its carrier subsidiary CommWorks, it knew there would be some rough quarters ... just not this many.

Almost two years after its creation, CommWorks has seen its revenue shrink in seven of eight quarters as the company suffers along with everyone else from the malaise in the carrier equipment market. And while observers say CommWorks is strong in several niche and emerging carrier technology markets, it might not have the product lineup to make it when, or if, carriers decide to start buying products again.

CommWorks has a strong installed base with service providers and says its products are in the networks of 16 of the top 20 service providers worldwide. The company's TotalControl 1000 service provisioning hardware and software platforms are used widely by carriers such as AT&T, WorldCom and Sprint.

But CommWorks has one foot in the past and one in the future in terms of its top moneymaking products, which is a blessing and a curse.

Some of CommWorks' biggest revenue-generating product lines are its older remote access servers (RAS) and V.92 modem bank concentrators for supporting ISP dial-up modem access. Jupiter Media Metrics says broadband Internet access is in only 16% of U.S. households. Many other analysts say dial-up modems are the access method of choice for more than two-thirds of Internet users.

Some observers say CommWorks can continue to squeeze revenue out of this market for years to come.

CommWorks' other foot is making a hard charge into the next-generation voice and packet telephony markets, with its line of softswitches, Signaling System 7 gateways, and Session Initiation Protocol and H.323 voice-over-IP (VoIP) protocol gateways. CommWorks says these products have carried a total of 10 billion minutes of VoIP traffic since they were introduced in 2000.

"Areas where we see growth are in the adoption of VoIP and VoIP services," says Dennis Connors, president of CommWorks. "This won't be broadbased, however. I don't think we'll see big changeouts or greenfield opportunities for [carrier VoIP deployments]. There will be adjunct opportunities for us, however, where our enhanced VoIP and VoIP services products will be complementary to customers' existing systems."

But VoIP equipment for service provider networks is a market that has dragged its heels up to now. Total IP voice product revenue declined 8% between the first and second quarters of this year, from $253 million to $233 million, according to Infonetics Research.

However, the research firm expects overall market to more than double during the second half of this year, to $1.1 billion by year-end.

Analysts are not as bullish about CommWorks' ability to gain a significant share of that growth. Despite its strong technology and a good base of carrier customers, some analysts see CommWorks as coming up short in offering a comprehensive product line compared with vendors that offer optical transport and IP infrastructure gear in addition to the VoIP, softswitch and RAS products that CommWorks has.

"CommWorks remains vulnerable to the single-vendor, end-to-end solutions from major rivals such as Alcatel, Nortel, Cisco, Lucent and Siemens," writes Brent Wilson, principal analyst with Current Analysis, in a recent report on CommWorks. "Some of these competitors might not offer as complete a solution as they once did, but CommWorks still has significant holes in its ability to support end-to-end services, lacking high-end optical components, for example, that competitors can couple closely with their backbone data products."

CommWorks' opportunity is in augmenting products it does not offer, Connors counters.

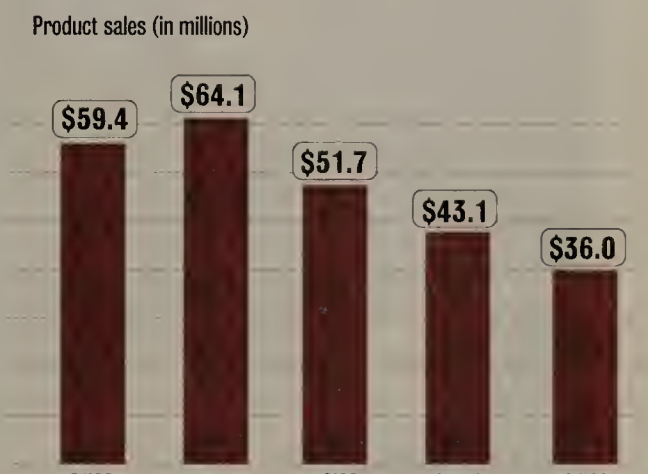
"In a market as difficult as this, you can't just go to customers and say, 'Here are our products for you to buy,'" Connors says. "We have to evaluate and make a very specific case as to what we have that will be a complementary offering for [carrier customer's] networks."

Wilson says CommWorks should partner with other vendors such as Avici or Juniper Networks, which offer the transport pieces of the puzzle while lacking a service creation portfolio or some of the extras, such

See CommWorks, page 34

3Com's albatross?

CommWorks, the carrier products division of 3Com, has not been immune to the slowdown in telecom equipment spending.



Convergent targets cable operators

■ BY JIM DUFFY

LOWELL, MASS. — Packet telephony vendor Convergent Networks last week broadened its target market to include cable operators.

Convergent rolled out Release 4.0 of its Cohesion distributed packet telephony software, which features media gateways, signaling gateways, tandem switching capabilities and network management applications customized for cable operators. The products are intended to let cable multiple service operators (MSO) deliver packet voice services in addition to their video and IP data offerings (see graphic at www.nwfusion.com, DocFinder: 2438).

"When the DSL and [competitive local exchange carrier] markets imploded, a lot of folks keenly got interested in the cable space. These were carriers that had free cash flow and access to capital," says Michael Harris, an analyst with Kinetic Strategies. "So if you look at carriers that are positioned to actually deploy voice over IP, the cable industry is at the top of the list."

With that as a backdrop, Convergent unwrapped Cohesion 4.0 and enhancements to its ICS2000 media gateway, ICSX call management server, ICSG signaling gateway and ICSP server proxy. The products are compliant with the PacketCable 1.0 and 1.1 specifications, and interoperable with a number of leading vendors' cable modems and modem termination systems.

These products, combined with Cohesion 4.0 software, let MSOs establish separate "zones" for IP and public switched telephone network (PSTN) services, Convergent says.

ICSP and ICS2000 let IP-based application services be executed on PSTN trunk endpoints, Convergent says.

Conversely, ICSP also can mediate between Signaling System 7-based service control elements and call-management elements that are controlling line or trunk endpoints.

Cohesion 4.0 elements also can be used in an array of local and toll tandem applications, Convergent says. ICS2000 supports

See Convergent, page 34

Short Takes

■ **WaveSmith Networks** last week announced that two carriers have installed its Distributed Node multiservice edge switches. **Ben Lomand Telephone** and **Vanion** have deployed Distributed Node for DSL aggregation, and frame relay grooming and aggregation, respectively. Ben Lomand installed WaveSmith's DN 7100 switch while Vanion opted for the DN 4100. Ben Lomand serves 36,000 business and residential customers in Tennessee. Vanion serves metropolitan and rural markets in Colorado.



HOW DOES NINTENDO PLAY TO WIN?

IBM®

@server

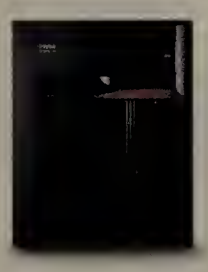
Linux® ready with self-managing features for every e-business.



Intel®-based / xSeries™
It's an affordable and powerful combination of mainframe-inspired reliability and smart systems management tools.

UNIX® / pSeries™
Highly available, highly affordable and highly coveted. The pSeries is the platform of choice for powerful UNIX and Linux solutions.





Midrange / iSeries™
Brings easy-to-deploy, plug and play e-business to your business. Sophisticated technology that's easy to manage and Linux ready.

Mainframe / zSeries™
Maximum reliability, maximum power, maximum flexibility. Designed for up to 99.999% uptime[1] to handle the demands of today's e-businesses.



Consolidate. Cut costs. Be available. At Nintendo, games are a highly competitive business. So they look for any edge they can get. By consolidating their core business applications onto one IBM @server iSeries, Nintendo now enjoys near 100% availability,[2] and expects to save substantially on hardware maintenance and software costs. For a guide on server consolidation, head to **ibm.com**/eserver/nintendo

@business is the game. Play to win.™

[1]Requires Parallel Sysplex® environment. [2]Excludes scheduled downtime. All numbers and results reported are from customer sources. This customer example is intended as an illustration only. Costs and results obtained in other customer environments will vary depending, among other things, on individual customer configurations and conditions. IBM, the e-business logo, *e-business is the game. Play to win*, iSeries, pSeries, xSeries, zSeries and Parallel Sysplex are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. Linux is a registered trademark of Linus Torvalds. Intel is a registered trademark of Intel Corporation or its subsidiaries in the United States and other countries. UNIX is a registered trademark of The Open Group. Other company, product and service names may be trademarks or service marks of others. © 2002 IBM Corporation. All rights reserved

CommWorks

continued from page 31

as VoIP and RAS gear. Connors agrees.

Partnering with other vendors is an important part of that complementary offering process, he says. While Connors would not talk about any future collaborations with other vendors, he cited a recent deal with Turk Telecom and Alcatel, where Alcatel VoIP gear was installed along with CommWorks' Total Control 1000 products, as an example of the partnering activities CommWorks will seek.

But another perceived weakness of CommWorks is its connection to 3Com, other analysts say.

The $36 million in revenue CommWorks brought in for 3Com's first fiscal quarter of 2003 (which ended on Aug. 30) accounted for only 11% of the company's total revenue, which was $305 million. This represents CommWorks' lowest contribution to 3Com's top line since the company was spun off in December 2000.

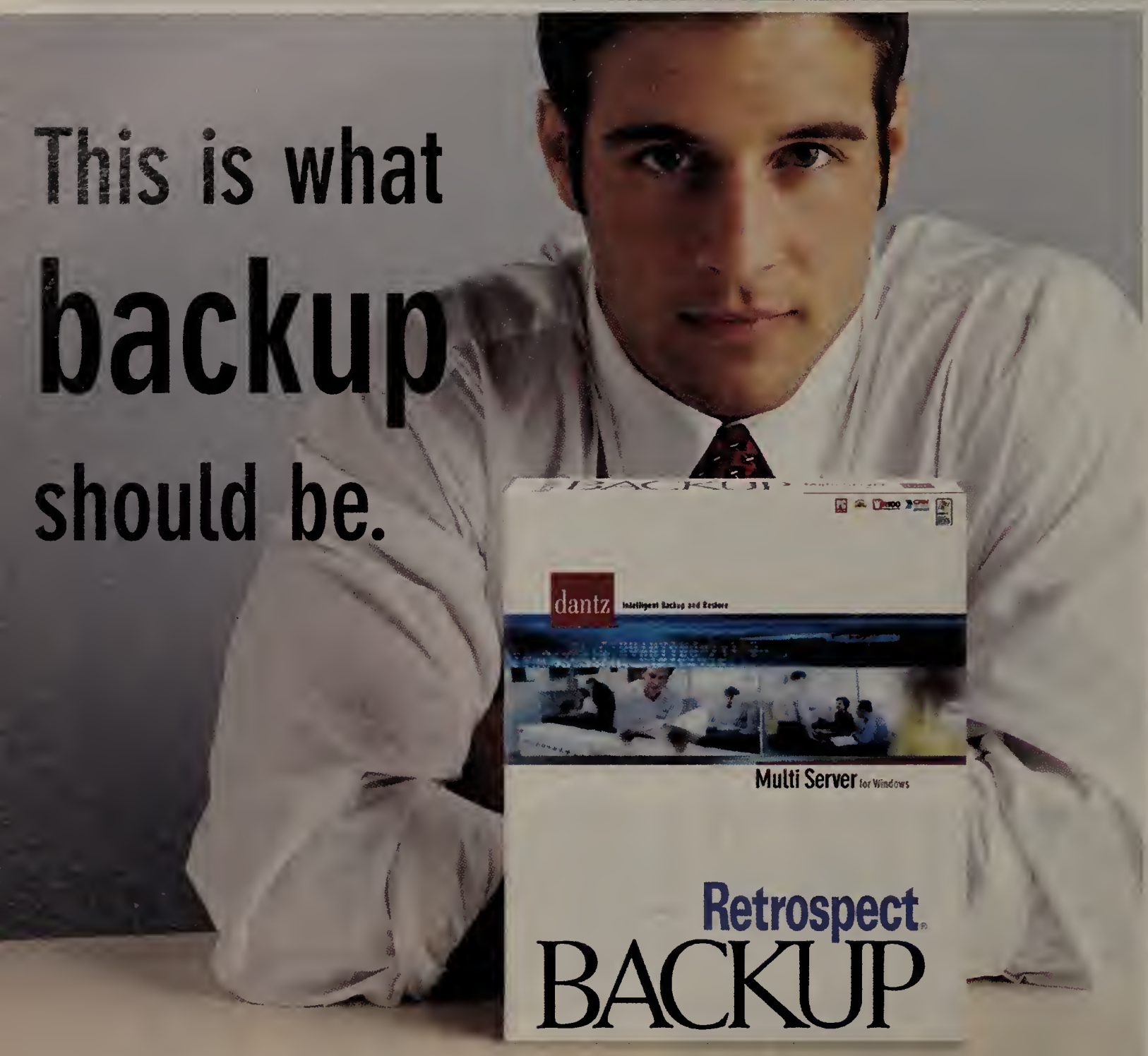
3Com has the balance sheet — $1.39 billion in cash — to keep its carrier operation going though the bad times. However, 3Com also has a history of quickly shedding businesses and product lines that don't pull their weight.

This could be a factor in carriers' decisions whether to purchase CommWorks' gear, says Glenn Gabriel Ben-Yosef, principal analyst with Clear Thinking Research.

"Viability is the issue" that carriers might have with CommWorks, Ben-Yosef says. "3Com in the last three years has vacillated so much; it hasn't decided what it wants to be. It has killed several product lines without warning [in the enterprise, consumer and home broadband customer premise equipment markets] and that could easily happen with CommWorks."

Connors doesn't expect any big shakeups or other moves that might spook customers.

"We'll always be looking at what's best for shareholders," Connors says. "But I don't expect to look at any kind of IPO or other separation [from 3Com] anytime soon." ■



Fast, accurate, automatic. Perfect backup and restore for small and midsize businesses.

If it's worth creating, it's worth saving with Dantz Retrospect®. Retrospect is simply the most intelligent backup software for fast, thorough backups and 100% accurate restores of your critical business data.

"Retrospect creates its own backup filing system that combines for speed, convenience and easy management giving us good reason to designate it a World Class product"
- Network World

Retrospect's patented technology automates backup and restore of notebooks, desktops, file servers, and line-of-business application servers such as SQL and Exchange. There's no complex manual scheduling or tape juggling. Backup schedules are automatically adjusted ensuring that every computer on the network is protected – even notebooks that come and go. Retrospect supports Windows,® Linux, Solaris, and Macintosh,® and adapts easily to your existing data storage hardware.

Trusted worldwide in millions of computers daily, Retrospect is the intelligent solution for businesses that must rely on perfect file protection, every time, every day.

Dantz Retrospect. It's the only backup software you will ever need.

Start today with the Top 10 Backup Tips,
visit www.dantz.com/v6
or call 1-800-225-4880
for more information.

dantz®
Intelligent Backup and Restore

©2002 Dantz Development Corporation. Retrospect and the Dantz logo are registered trademarks of the Dantz Development Corporation. All other trademarks are the property of their respective owners.

Convergent

continued from page 31

IP, ATM and TDM trunk groups, including ISDN and channel-associated signaling; and logical partitioning for resale and voice-VPN services.

"Convergent has thought a little more elegantly about how you can provide a more integrated and seamless PSTN interconnection point for a packet network, particularly through integrating some of the trunking elements," Harris says. "They've also done a pretty decent job in terms of density."

Convergent says it can support more than three times as many IP/G.711 calls per shelf or rack than any other PacketCable-compliant competitor.

Convergent's Cohesion 4.0 will go up against cable packet telephony offerings from Sonus Networks, Nortel and Siemens, and other media gateway vendors. Adelphia and Cablevision currently use Cohesion 4.0 in tandem applications. Convergent has negotiations under way with two MSOs for trials and has responded to requests for proposal from several others, says Carl Baptiste, Convergent's managing director of marketing.

Cohesion 4.0 and its associated products are available now. ■



More online!
Learn more about Convergent's beginnings.
DocFinder: 2437

Technology Update

■ AN INSIDE LOOK AT THE TECHNOLOGIES AND STANDARDS SHAPING YOUR NETWORK

Multicast fan-out saves bandwidth

■ BY D.C. PALTER

Multicast technology is the most efficient way to deliver a file or data stream from a single server to multiple clients. The use of multicast conserves server resources while reducing bandwidth requirements, which can be especially beneficial over expensive WAN links.

While there is little dispute over the benefits of multicast, it is not widely deployed because of two particular limitations.

First, complex billing, management and security concerns have caused most ISPs to block multicast traffic from their networks. Because it is necessary for the entire network path between the server and clients to be multicast-enabled, multicast availability generally is limited to closed networks.

Second, IP Multicast, a standard component of the TCP/IP protocol suite, is a User Datagram Protocol (UDP)-based, unreliable, "best-effort" service. While useful for real-time streaming, IP Multicast is inappropriate for file and data transfers where reliability is a requirement. Although there are a variety of products available for reliable multicast, these generally require the installation of multicast protocols on all end nodes and can use only specialized multicast-aware applications.

Multicast fan-out

Multicast fan-out (MFO) overcomes these limitations by transparently converting unicast TCP connections into a specialized reliable multicast protocol for transmission over the WAN. On the opposite side of the WAN link, the process is reversed — the reliable multicast protocol traffic is converted back to unicast TCP for communication with the ultimate destinations.

This fan-out process lets the server and each of the clients continue using standard TCP-based applications, including FTP, without any changes to the local network infrastructure, while taking advantage of the benefits of reliable multicast over the WAN.

MFO works by inserting an MFO transmitter on the server side of the WAN link and MFO receiver at each remote site. This functionality can be implemented as a separate proxy-like hardware device or embedded into other hardware on the network such as the router, modem or WAN connectivity device.

The MFO transmitter intercepts the unicast TCP connection from the application server. The MFO Transmitter then sends the data over the WAN link to each MFO receiver using a specialized reliable multicast protocol. At each remote site, the MFO receiver relays the data to a local client or set of clients using a new unicast TCP connection (see graphic).

MFO can work with any TCP application that pushes data from a content server to local clients. Uses can include not only file transfer applications such as FTP, but databases, cache replication systems, content-delivery networks, video servers and proprietary client-server applications.

Time and bandwidth savings

Over a 2M-bit/sec link, a standard FTP download requires 400 seconds to transfer a 100M byte file to one site. To transfer the same file to 10 sites requires more than an hour. With 100 sites, the transfer takes more than 11 hours.

Using MFO, the file transfer takes 400 seconds whether sending to one, five, 10 or 100 or more remote sites. Similarly, MFO uses no more bandwidth to send the file to all the sites as it does to send it to a single site.

MFO is ideal for distributing content stored at a central location to multiple remote sites. With MFO:

- ISPs can replicate cache content to local points of presence.
- Chain stores and franchises can download database, inventory and pricing data from headquarters to local stores.
- Companies can distribute software updates, presentations and training materials across the company.
- The entertainment industry can transfer large video files to distribution centers, affiliates or directly to theaters.

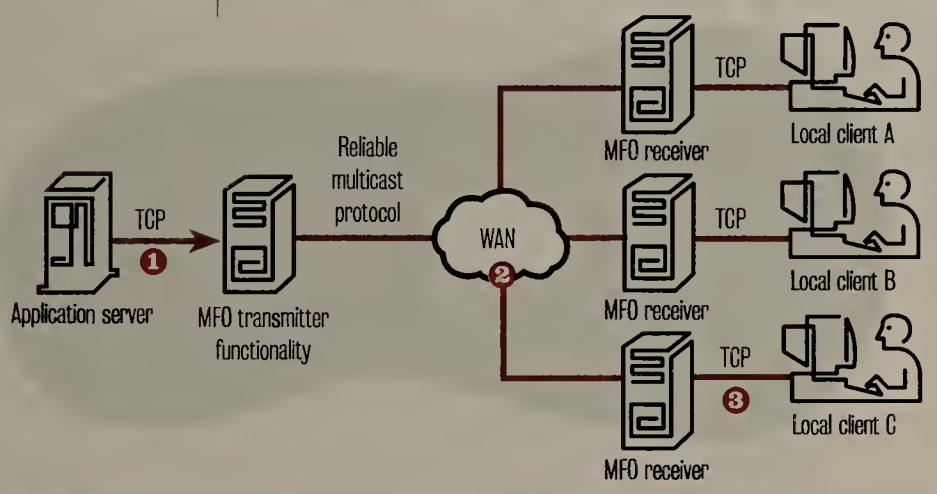
MFO is transparent to clients and servers and requires a multicast-enabled infrastructure only over the WAN link. By automatically converting standard unicast transfers to reliable multicast, MFO reduces the time to transfer data and files to multiple users while cutting bandwidth costs.

Palter is vice president of Mentat, a Los Angeles supplier of network protocols. He can be reached at dc@mentat.com.

■ HOW IT WORKS

Multicast fan-out

Multicast fan-out transparently converts unicast TCP connections into reliable multicast that can be sent to multiple sites without using additional bandwidth.



❶ An application server sends unicast TCP message.

❷ Multicast fan-out transmitter converts unicast TCP message into reliable multicast protocol. The message is then sent to multiple sites.

❸ Multicast fan-out receiver converts message back to unicast TCP. Message is received by local client.

Ask Dr. Internet

By Steve Blass

We've seen some ads for 5.8GHz cordless phones. Will these interfere with 802.11a networks in the way that 2.4GHz phones interfere with 802.11b networks?

The 5-GHz band is unlicensed in the U.S. like the frequencies used by the 2.4-GHz technologies, but is much less crowded. So today, the probability of interference with an 802.11a network is much lower than 802.11b (check out www.nwfusion.com, DocFinders: 2435 and 2436, for more information).

802.11a uses Orthogonal Frequency Division Multiplexing instead of the Direct Sequence Spread Spectrum technology that is the root of most 802.11b pitfalls. Choosing the lower speed Frequency Hopping Spread Spectrum settings in 802.11b equipment can overcome much of the typical interference from other nearby radio devices. But it also reduces the throughput capabilities. The current attraction of 802.11a is that it operates in fairly empty spectrum, which is used mostly for governmental communications. The 5-GHz technology also is better equipped to fight interference. OFDM uses 48 separate subcarriers to provide 6M, 9M, 12M, 18M, 24M, 36M, 48M or 54M bit/sec.

Blass is a network architect at Change@Work in Houston. He can be reached at dr.internet@changeatwork.com.

GEARHEAD INSIDE THE NETWORK MACHINE

Mark Gibbs



More weirdness

In the last Gearhead we were perusing the strange world of Internet Explorer's use of folders under Windows. This is a world where things are not as they seem, and once again Microsoft has created an architecture that would make Dali proud.

Rather than hack through the undergrowth of Microsoft's peculiar use of the Windows file system and fight the wild, untamed wilderness that is Internet Explorer, allow us to point you to a terrific document that will tell you more than you expected to know (and possibly wanted to know) about the subject: "Index.Dat Files and Primary I.E. Folders" (www.purgeie.com/indexdat.htm). The piece is by James Lawler, the author of a fine utility called PurgeIE (www.purgeie.com).

Let's take a second to note that finding out how Microsoft does all its tricks, like making records in index files look like real files in the file system, is remarkably difficult — just try to find a clear, concise description in the Microsoft KnowledgeBase. It also makes one wonder how we manage to get Windows to do anything other than what Microsoft wants or will let us do. Windows is to systems engineering what a straightjacket is to ballet.

Anyway, PurgeIE Version 5.01 assists "you in controlling Cookies on your system using Internet Explorer facilities. This includes display and modification functions for Security Zone assignments and the IE-6 'per-site' Cookie Settings." As you might assume, it supports IE-6 and Windows XP. As the author notes, "PurgeIE is the Swiss Army Knife of Cache and Cookie Utilities for Internet Explorer."

And a Swiss Army Knife it is. To begin with, PurgeIE will give you statistics about your cookies and Internet Explorer's wild and abandoned use of disk space. Here's what ours looks like:

Online Cache: 20,040 files — 221,188K used of 478,992K allocated

Offline Cache: seven files — 39,817K used of 39,888K allocated

Total Cache: 20,047 files — 261,005K used of 518,880K allocated

Cookies: 1,835 files — 325K used of 29,360K allocated

Temp: 1,662 files — 1,174,237K used of 1,191,712K allocated

UserData: nine files — 1K used of 144K allocated

GEARHEAD SCORECARD

Product: PurgeIE v5.01

Functionality	B
Elegance	D
Value for money	A
Overall grade	B-

Vendor: Assistance & Resources for Computing
9508 In-A-Vale Drive
Brentwood, Tenn. 37027
www.purgeie.com

That is a total of 43,600 files that use 1.697G bytes of a total of 2.259G bytes allocated. Staggering.

PurgeIE's purpose is just that: to delete cookies, previous searches, autocomplete entries, history folders, visited and typed URLs and recent links ("Links to documents, images that were accessed by your system [and] displayed as icons when you press the Windows Start button and select Documents."). It even empties the recycle bin. It can be configured to run on start-up and be set so it only purges the online and offline caches of items that are more than a user configurable age old.

PurgeIE also can identify and clean up "strays" — cookies and cache files that are not indexed by an Internet Explorer index. There are several causes for strays, the main one being termination of a Web page before the loading process is complete. The cookie or content file goes into the cache, but the index is not updated.

Items can be protected by domain, full URL or item type so that they are excluded from purges, and you can execute test purges that display what would be purged without anything actually happening. Cookies also can be blocked or allowed on a domain-by-domain basis.

We only have a couple of criticisms. First, the user interface is a little rough.

Second, given that we're dealing with tens of thousands of files, some operations can take a long time. But there is no way to know how processing is progressing and no way to stop processing. So once you select, for example, to find all the strays, which requires cross-referencing every file, you are in for a long wait.

Something we'd like to see in PurgeIE would be suggested purging configurations for people whose concerns span from laissez faire to completely paranoid.

Other than that, we like PurgeIE a lot. The program is sold as shareware on a 30-day trial and costs $20.

Enough cookies already! Next week, red meat.

Dietary notes to gearhead@gibbs.com.



CoolTools

Quick takes on high-tech toys
By Keith Shaw

Connecting to Sprint's new network

Many of the new phones and devices that Sprint launched with its new PCS Vision network have consumer appeal, with features such as picture taking, animated screen savers and mobile games. But there are two products that business users should look at: the Handspring Treo 300 and the Sprint PCS Vision PC card.

We recently tested these two products, and were impressed with the network speeds (coverage wasn't too bad either). The integration of Sprint's software for wireless e-mail access into the Treo 300 is so good that it might cause BlackBerry fanatics to consider switching.

The PCS Vision network is a Code Division Multiple Access 1xRTT wireless network that promises transmission speeds of up to 144K bit/sec., with an average rate between 50K and 70K bit/sec. It was launched nationwide by Sprint early this summer (nationwide meaning in the large U.S. cities, of course).

The Handspring Treo 300 ($600 retail, plus service fees) is a converged device (PDA plus cell phone) that uses the Palm OS (Version 4). It has an integrated keyboard (like the Research in Motion BlackBerry) for text input, and is smaller than earlier versions of converged devices (although it's the same size as other Treo Communicator models that run on other wireless networks).



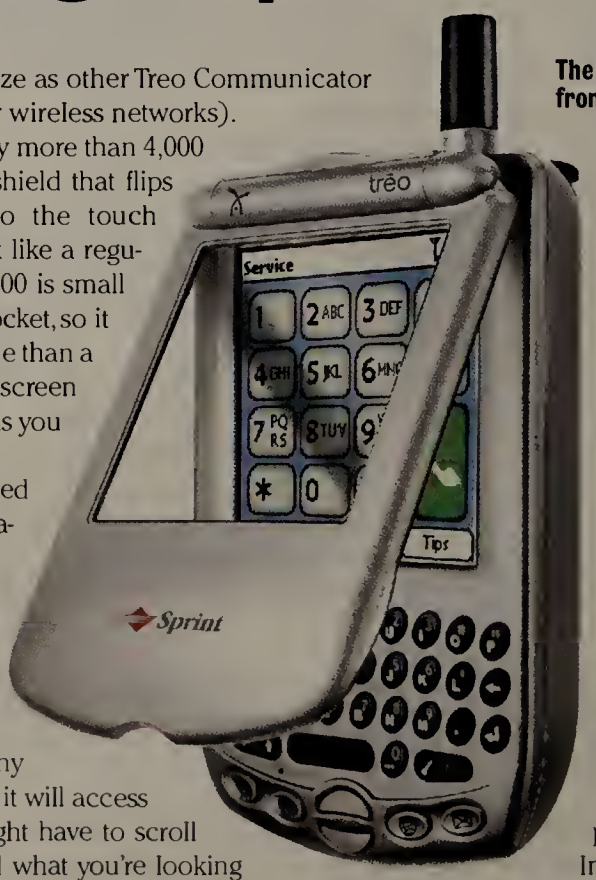
The PCS Vision PC card gave us speeds that were faster than dial-up.

The Treo 300 can display more than 4,000 colors, and has a cover/shield that flips open (clamshell-like) to the touch screen and makes it look like a regular cell phone. The Treo 300 is small enough to fit into your pocket, so it feels more like a cell phone than a PDA, and the reduction in screen size was not as dramatic as you might think.

Internet access is handled through Handspring's Blazer browser — it gives you access to predetermined Web sites on Sprint's network (which are optimized for the size of the screen). However, you also can input any URL into the browser and it will access the site, although you might have to scroll around the screen to find what you're looking for. Its bookmarking feature made it simple to store favorite Web sites into the browser.

Because the network speeds are faster, it was less painful to sit and wait for Web pages to come up on the device, but it was still slow enough to remind us that we were attempting to view Web pages on a handheld device. It's still a step in the right direction, though.

The wireless e-mail integration was impressive. Included with the Handspring Treo was Sprint's Business Connection Personal Edition software, which lets you retrieve corporate e-mail (we tested with Microsoft Exchange) via the device. Much like the RIM Internet edition software, a user has to install the personal edition software and keep a desktop running to receive the e-mail on the device. However, Sprint also has an Enterprise Edition that lets businesses forward e-mail directly from the Exchange server.



The Handspring Treo 300 might get you to switch from your BlackBerry.

The Sprint PCS Vision PC Card is a Novatel Wireless card (Merlin C201, about $250) that allows data access to the PCS Vision network for notebook computers. For computers that are out of range of a wireless LAN (most hotel rooms), this can be a way to stay mobile and avoid paying outrageous hotel phone charges.

In our tests, we got about 260K bit/sec data rates on average, much better than the 50K to 70K bit/sec average that Sprint said it could deliver. At some points we received bursts that were smaller (around 150K bit/sec), but we also received larger bursts (up to 700K bit/sec at times).

Overall, the experience was better than dial-up but still not as seamless as our T-1 or wireless LAN connected to our cable modem.

Shaw can be reached at kshaw@nww.com.

DISCOVERY AHEAD

EXPLORE, EXPERIENCE, DECIDE.

Your Future is at COMDEX.

Keynotes—Free to all COMDEX attendees



BILL GATES
Microsoft Corporation



HECTOR DE J. RUIZ
AMD



CARLY FIORINA
Hewlett-Packard Company



PETER CHERNIN
News Corporation and Fox Group



SCOTT MCNEALY
Sun Microsystems, Inc.



BRIAN HALLA
National Semiconductor Corporation

COMDEX Fall 2002 is your best opportunity to experience, explore, and learn about the latest product innovations, leading vendors, and powerful new business strategies.

- FREE access to the exhibit floor
- FREE entrance to the Great Debates and Hot Spots
- FREE admission to the new Digital Lifestyles Conference and SuperSession
- Content-rich Educational Programs for business and technical professionals

Register today!

Visit www.comdex.com/fall to register or call 888-568-7510.
Use Priority Code NTMG and Coupon Code 342.

COMDEX EDUCATIONAL PROGRAMS: NOVEMBER 16–21, 2002
COMDEX EXHIBITION: NOVEMBER 18–22, 2002
LAS VEGAS CONVENTION CENTER, LAS VEGAS, NEVADA

OFFICIAL CORPORATE SPONSORS OF KEY3MEDIA GROUP

AMERICAN EXPRESS
Official Card of COMDEX

Mercedes-Benz
Official Automotive Sponsor

NYSE
New York Stock Exchange

Key3Media Group PRESENTS

COMDEX®
FALL 2002

THE GLOBAL TECHNOLOGY MARKETPLACE

by Key3Media Events, Inc., and may be registered in the United States and other countries. All other trademarks are the property of their respective owners.



EDITORIAL

John Dix

Shopping for carrier services on the Web

Telecom portals have made procuring some basic carrier services easier than ever, but these are still early days, and relatively few people seem to be taking advantage of them.

That has forced some portals to close down, but a number of shops are pressing forward, evolving their businesses on the fly, convinced they can save users time and money when shopping for everything from VPNs to OC-3s.

Basically, three types of portals have emerged:

• Sales agencies — Companies such as Bandwidth.com (see www.nwfusion.com, DocFinder: 2439) actually sell carrier services and only use the Web to facilitate customer service and order/status tracking. Customers use the site to spell out what they want — T-1, T-3, frame, ATM, etc. — and specialists call back with proposals for multiple carriers. If the customer picks one, Bandwidth.com closes the deal and gets a commission.

• Sales clubs — Carrier sales folks pay a small fee to join companies such as Framerelay.net and, in return, get screened leads. Customers use the service to shop for private lines, frame relay, high-speed Internet access, ATM, VPNs and the like. Other portals, such as Telezoo.com, ask carriers to pay the joining fee and rely on the carrier to distribute the leads.

• Lead referrals — Portals such as Broadbandbuyer.com and T1anywhere.com simply collect customer information and requirements, forward them to affiliated carriers, and earn a referral fee if the carrier closes the deal. Broadbandbuyer says it deals in ISDN, T-1, T-3, DSL, OC-1 through OC-255, Ethernet, ATM, frame, VPNs, etc. T1anywhere is one of Speed Anywhere's many sites; the others cater to T-3, business DSL, frame, VPN and telecommuting.

The first thing you'll notice with all these portals is the sites are fairly rudimentary, and because many are still evolving, that can lead to some confusion. Framerelay.net, for example, has links that lead you inexplicably to Discountcall.com, the company's original name.

While few of the companies will discuss how well they're doing, Jamie Ferraro, co-founder of Broadbandbuyer.com, says business is growing 20% month over month. In August, the company handled 500 service requests.

Bruce Judson, chairman and CEO of Speed Anywhere, says his company is experiencing exponential growth, but admits that even as it grows, the company constantly is trying to figure out, "How do we make it better?"

This is a business that will only tolerate companies that answer that question correctly. Some of these portals won't be around next year.

— John Dix
Editor in chief
jdix@nww.com

opinions!

Standard issue

It wasn't until I read through the fifth or sixth paragraph of "Portal standards for Web services" (www.nwfusion.com, DocFinder: 2429) that I realized that the authors were not describing existing standards, but those that are in development. Many of your readers might think the Java Portlet and Web Services for Remote Portals "standards" exist today and that they must use them in their e-business systems. Don't get me wrong, standards of this nature will be extremely beneficial, but don't confuse people with the wrong label. Make authors be clear about existing and proposed standards up front.

Brad Hoyt
CTO
Infraservices
San Mateo, Calif.

Not-so-new technologies

I have to wonder why Naptha and Reflection DoS are considered new attack technologies in Mandy Andress' story "Denial of service: Fighting back" (DocFinder: 2430). Naptha is nearly 2 years old; BindView's Razor team released its Naptha advisory in November 2000 (DocFinder: 2431).

The technique is a slight variation on a SYN flood, but is more difficult to perform because it requires the attacker to predict sequence numbers to send the final ACK, or to sniff somewhere along the transmission path of the SYN/ACK packet sent by the victim. If the attacker is in the transmission path, there are more interesting things that can be done than a DoS attack.

Reflective DoS is even older. I was involved in a discussion about the technique during Stephen Northcutt's intrusion-detection system course at the System Administration and Network Security Institute's Washington, D.C., conference in July 2000. Many had been aware of it for at least two years before that. The reason various trade press writers have reported it as new is that Steve Gibson asserted it was new when he was affected by it this January (http://grc.com/dos/drdos.htm). He took credit for discovering a new distributed DoS, but the only thing new is the name it was given.

Paul Cardon
Columbus, Ohio

Andress replies: New is a relative term. The CERT advisory for SYN floods was released in 1996 (DocFinder: 2432), so an attack released in 2000 was considered new for this story. These issues are not like application and operating system vulnerabilities that usually are patched and fixed in the next release. SYN flooding is still a problem after six years.

As for Reflective DoS, the concept has been around a while, but I have seen an increase in attacks and some different mechanisms for launching them that needed to be mentioned. I did not find a specific name for these attacks, so I put them under the broader category of reflective attacks.

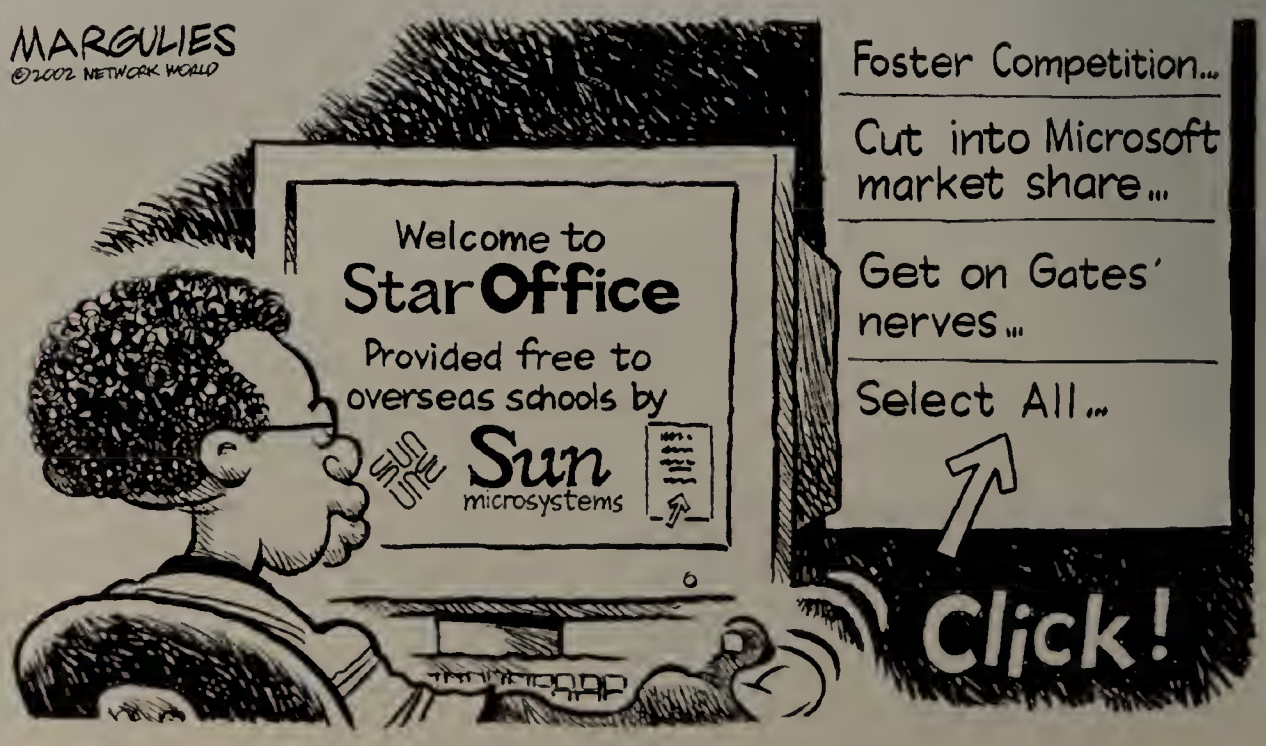
Challenging times

I enjoyed your story "Challenging times for telecom deals" (DocFinder: 2433). Too often we forget the basics of doing business while reading of one problem after another in the telecom arena. The more a company sticks to the basic technology, the easier it is to find vendors that can handle your business. New technologies and integrated access device systems often lock companies into a direction that does not let them move to new service providers.

William Sarine
President
PotsTek
Raleigh, N.C.

E-mail letters to jdix@nww.com or send them to John Dix, Editor In Chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

More online! www.nwfusion.com Find out what readers are saying about these and other topics. **DocFinder: 2425**





BOTTOM LINE

Joel Snyder

Why trade shows still matter

There are huge reasons to keep supporting, attending and exhibiting at trade shows such as N+I.

A few weeks ago NetWorld+Interop Atlanta was pronounced dead on arrival (see www.nwfusion.com, DocFinder: 2428), a victim of economic circumstance and bad timing — who wanted to be away from home the week of Sept. 11? N+I was a much smaller show than in years past, with a smaller exhibit hall and fewer attendees. But the key factors that make N+I important for users and vendors are still true.

I participated in N+I as part of the iLabs vendor-neutral technology interoperability demonstration. From what I saw, there are huge reasons to keep supporting, attending and exhibiting at trade shows such as N+I:

• **It's not all on the Web.** Certainly huge amounts of product information are now available via the Internet. But to really learn about a product, there's nothing like talking to the vendor directly, especially the engineering people. For example, there were times in the iLabs when an attendee would ask a question about the specific details of a product that we couldn't answer. If the vendor had been on the trade show floor, we could have gotten an answer or a contact and closed the loop.

• **It's not just an exhibit floor.** Most conferences have a strong education component, and the technologies we deal with are getting more complex every day. Designing and installing new technologies such as voice over IP, VPNs, Windows .Net and secure wireless networks is an order of magnitude harder than just getting your core network installed. People have to learn how to do that, and surfing Web pages and reading *Complete Moron's Guide to Security* is not enough. The training and classes at conferences such as N+I are unmatched — it's what you need to do your job.

• **It's not just you.** The Internet makes communication fast, inexpensive and easy, but you have to know who you want to talk to first. Conferences are an ideal way to network with your peers and make contact with other network managers trying to solve the same problems. Many times, after showing a group of attendees something in the iLabs, I saw them huddle and exchange business cards, having found a common interest and reason to keep in touch.

• **You need to know what you need to know.** Products and vendors are constantly coming to market. Reading *Network World* only takes you so far. Wandering the aisles of a trade show, especially areas such as N+I's Startup City, can bring interesting new products to your attention. I'm pretty well connected to what's going on, but every time I go to N+I, I learn about really interesting new products and companies.

The trade show business definitely has some room to contract — perhaps N+I is better off doing one big show a year rather than two. But it's not in anyone's interest for it to go away entirely.

Snyder, a Network World Test Alliance partner, is a senior partner at Opus One in Tucson, Ariz. He can be reached at Joel.Snyder @opus1.com.



INDUSTRY COMMENTARY

Frank Dzubeck

Reality strikes the grid

Grids are here to stay, but they and Web services are still very much emerging technologies.

In two previous columns I presented an evolutionary vision of the future of computing and networking based on the grid and Web services (see www.nwfusion.com, DocFinders: 2426 and 2427). In reality, the grid is in its infancy, with a primary focus on computational computing and a secondary focus on database computing. The yet-to-be-tackled problem of transactional computing — the major form of computing within corporations today — is still in its earliest research phase within vendor laboratories. If successful, applying the grid to transactional computing will forever change the course of computing and bandwidth demand.

The grid has become a hot topic within business segments such as the pharmaceutical, financial services and automotive industries looking to reduce product time to market, lower supplier costs and competitively price services. It is being looked at as an IT tool to simplify corporate structure and improve employee productivity.

One interesting development in the grid is that many business segments have, with government research budget assistance, created useful grid projects in the university environment. The University of Pennsylvania has implemented a significant healthcare application that creates a data grid of mammography-image databases that will let pattern-matching software assess millions of images for early warning and predictive medicine applicable to breast cancer. Purdue University and Indiana University are creating millions of "virtual consumers" using a fiber-connected grid to model and predict consumer reaction to product introductions, pricing and marketing campaigns.

The success of the investment partnership between the government and universities has allowed for collaboration of computing resources between corporations and the university environment. The TeraGrid Project links distributed research laboratories and university computing facilities into a Gigabit Ethernet-connected computing grid, resulting in a 13.6-teraflop virtual computer, with 450 terabytes of storage, operating as a Linux open computing platform. The North Carolina Bioinformatics Grid links corporate and university computing and storage facilities into a scalable collaborative life sciences environment within the state.

Based on current implementation research, approximately 30% of the cost of grid implementation is for software. The use of Web services as an application and database integration tool begins to bring full focus on the limitations of current intergrid implementations. By definition, Web services are described using XML. A number of problems have come to light in current Web services implementations, the first and most obvious being the lack of security. The good news is that new security committees in standards bodies are addressing missing links in authorization, policy, trust and privacy. The anticipated set of new Web services security standards will become available in late 2003.

The second problem — XML overhead — is viewed as a network and a processing issue. XML encapsulation of datastreams and coordination conversation might create network latency and scaling problems. The delays XML processing introduces within the server also might create significant quality of service (QoS) performance problems in a Web services application. A new type of network product called an XML accelerator addresses the problem. This is a processor off-load issue that today's software vendors recognize but cannot fully address.

The third problem is even more subtle but just as significant — XML denial of service (DoS). Malicious coordinated XML traffic flow can create serious degradation or a complete breakdown in application and database processing. This is a problem that needs greater focus within existing and potential Web services implementations. Soon to be available are sophisticated XML network security product that identify, filter and eliminate DoS attacks.

Grids are here to stay, but they and Web services are still very much emerging technologies. All the protocol and operational problems encountered in the widespread use of IP for interoperability, scalability, QoS, security and management have analogous problems in the XML world. Ignoring this will have the IT industry spinning its wheels instead of growing at a rapid pace to meet the productivity and cost reduction demands of its enterprise customers.

Dzubeck is president of Communications Network Architects, an industry analysis firm in Washington, D.C. He can be reached at fdzubeck@commnetarch.com.



KEYNOTE SPEAKER:
Dan Warmenhoven
CEO
Network Appliance, Inc.

Every year, more senior IT and business executives attend COMNET Conference & Expo than any other networking show.* Because they know they'll get an up-close look at the very latest networking technologies, without all the hype and the hoopla. They'll talk face-to-face with the experts about implementing new technologies for storage, security, Web services, wireless infrastructure and more. And, they'll network with other leaders weighing similar purchases.

So what else do today's leaders know that you don't? Find out at COMNET 2003. For more details, visit **www.comnetexpo.com**. Or call **1-866-266-6389**.

Where leaders network

*Data based on COMNET total attendance.

This January, see why it's never lonely at the top.

CONFERENCE: January 27-29, 2003 EXPO: January 28-30, 2003 Washington Convention Center, Washington D.C.



COMNET CONFERENCE & EXPO

www.comnetexpo.com

Flagship Sponsor:
NetworkWorld

Silver Anniversary Sponsor:
ADTRAN

©COMNET Conference & Expo. All rights reserved. All other trademarks contained herein are the property of the respective owners.

P3P plan

Here's what you need to know to deploy Platform for Privacy Preferences on your Web site.

■ BY THOMAS POWELL, NETWORK WORLD GLOBAL TEST ALLIANCE

What P3P defines

- Who is collecting data?
- Where is the readable privacy policy?
- What data is collected?
- For what purposes will collected data be used?
- Is there the ability to opt-in or opt-out of some data uses?
- Who are the data recipients, including anyone beyond the data collector?
- To what information does the data collector provide access?
- How long is collected data retained?
- How should privacy disputes related to the policy be resolved?

The rise of e-business has led to a tidal wave of data being collected about Web site visitors, ranging from basic information to rich profiles built out of user-submitted forms. However, what exactly is collected, shared and acted on isn't always evident to end users. This might lead to trust problems between site visitors and site owners, resulting in loss of business and even legal problems.

Privacy policies are meant to describe what a company does with the information it gathers from Web visitors. The problem is today's privacy policies are often difficult to find, are overloaded with technical jargon and legalese, and are just plain hard to understand. It's no wonder that few users read them.

The World Wide Web Consortium's (W3C) Platform for Privacy Preferences (P3P) 1.0 aims to give users more control over how Web sites use their personal information by providing machine-readable privacy information that lets them act on what they see.

Deploying P3P requires converting the privacy practices of your organization into P3P format. To do this, use a P3P editor such as the aptly named P3P Editor or an online policy generator such as P3P Edit. These tools prompt you to answer a series of multiple-choice questions regarding major aspects of your site's privacy policy. This information is used to generate a full XML-based P3P policy and a compact policy that is presented as a simple HTTP header.

When a P3P-aware browser such as Microsoft Internet Explorer 6 or Netscape 7 visits a Web site, it will attempt to retrieve the P3P policy to make privacy decisions. The browser looks in a well-known place off the root directory — /w3c/p3p.xml — for the full file or a small XML file or HTTP headers that point to the full policy. The P3P-aware browser parses the policy, compares it with privacy requirements a user sets in his browser preferences, and either allows access to the site, warns the user or restricts access (see graphic, page 42).

But today, most P3P implementations do not generally operate using the full P3P policy. Instead browsers such as Internet Explorer 6 and Netscape 7 support only the compact policy form of P3P.

The compact policy focuses primarily on cookie usage with a short set of keywords transmitted by HTTP headers. Setting the HTTP headers can be accomplished programmatically if pages are generated using a technology such as Active Server Pages, PHP: Hypertext Preprocessor or Java, by setting a server configuration, or be using a Web server add-on.

For example, in the case of Apache you might use the mod_headers module, while on Internet Information Server, you could use Microsoft Management Console to set HTTP response headers, including P3P compact policy values. You can find the W3C's full deployment guide, including server configuration information, at www.w3.org/TR/p3pdeployment.

Once a P3P compact policy is set and issued to a visitor the browser compares the policy's privacy statements with the user's cookie acceptance policy and rejects, denies or modifies the properties of the cookie.

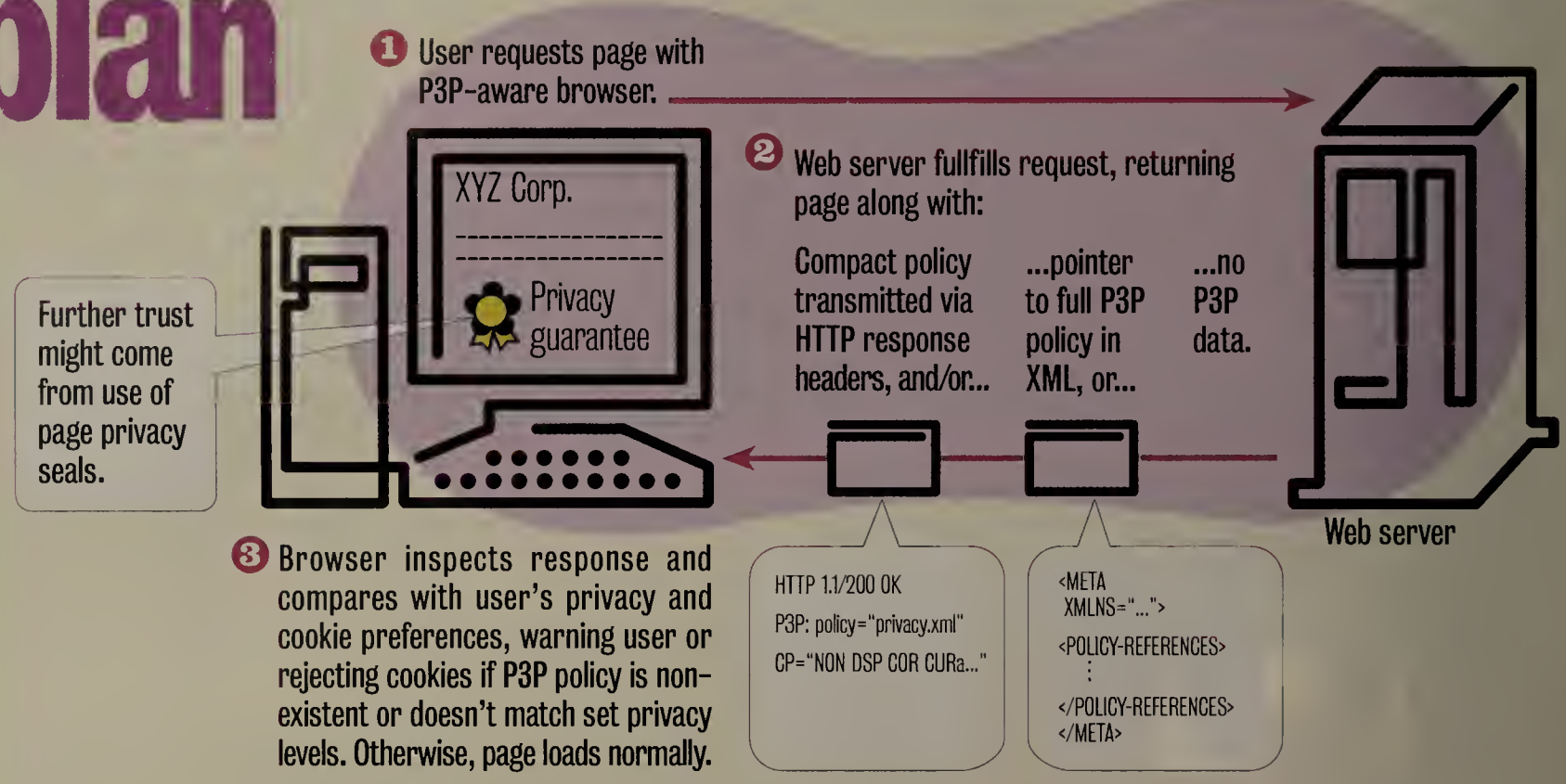
Real-world usage

One of the challenges with implementing P3P is making sure your company's privacy policy is well-thought out, discussed and accepted internally. This is well beyond the realm of Web administrators, and bridges legal and business issues with technology. However, this isn't really the biggest problem with privacy technologies such as P3P —

P3P plan

P3P in action

Sites that use P3P let Web surfers know what information is being collected about them and how it will be used.



it's considering end users and how they use technology in a realistic manner.

Users who actually rely on today's browser P3P implementations will find that they just don't go far enough. While they allow for cookie management, which is for many people the root of the privacy question, they don't get into any detailed decisions about data usage or provide much information to end users about what types of policy practices are in place. Web surfers might want to consider using a P3P browser add-on such as AT&T's Privacy Bird, which provides more complete P3P policy handling.

During everyday testing, the privacy bird icon chirped all the time, indicating no information about sites, although it did caw loudly a few times when it found sites issuing privacy policies inconsistent with the set privacy preferences.



More online!

- Find out what other privacy-related issues worry users.

DocFinder: 2422

With so few sites having privacy policies, some would argue that P3P provides little value to end users at this point. While some surveys suggest that upwards of 25% to 30% of major sites have privacy policies, a survey of more than 850,000 sites from SecuritySpace.com showed that less than 5% of them have compact policies — the ones that would actually matter today.

Even when policies exist, users might be skeptical. According to a recent Harris Interactive survey, most users don't trust online corporations to handle their personal information properly and would like to see third-party auditing be a requirement for Web sites. Users worry that companies will share collected personal data with others or that information might be stolen by hackers or others, potentially resulting in identity theft or annoyances such as unsolicited e-mail.

Trust and enforcement

Today various "approved seal" organizations such as TRUSTe and BBB Online help improve the data-handling trust problem. Data-collecting sites increasingly post privacy seals, although deployment is not ubiquitous. What's more, such programs beg the question of whether users know and trust these approving organizations, and if these organizations have any bite without legislation in place to penalize privacy offenders. So far the trend seems toward industry self-regulation, which suggests that freewheeling data collecting and sharing can continue as long as users are supposedly informed.

To decrease risk of potential legal problems, monitor adherence to your firm's privacy policies and clearly inform employees of the ramifications of site privacy. All too often privacy policies are crafted by a small number of people such as lawyers or site builders, but other employees who come into contact with collected data don't understand the privacy policy any more than a site's visitors.

Emerging privacy monitoring and auditing technology, including ZeroKnowledge Enterprise Privacy Manager, Watchfire Web CPO and IBM Tivoli Privacy Manager, might help you watch internal data collection and usage, but they will never provide the required assurances to make sure the data is not misused.

It's a good idea to add compact P3P policies to your sites to improve user trust. But in the final analysis, understand that privacy on the Web will not be solved solely by technologies such as P3P. Technology will only provide a framework in which policies can be presented. Education and enforcement also are required.

Powell is president of PINT, a San Diego Web services firm, and the author of numerous books on Web development practices. He can be reached at tpowell@pint.com.

Global Test Alliance

■ **Powell** is also a member of the Network World Global Test Alliance, a cooperative of the premier reviewers in the network industry. For more Test Alliance information, including what it takes to become a member, go to www.nwfusion.com/alliance.

Other members: Mandy Andress, ArcSec. John Bass, Centennial Networking Labs. North Carolina State University. Travis Berkley, University of Kansas. Bob Currier, Duke University. Jeffrey Fritz, West Virginia University. James Gaskin, Gaskin Computing Services. Greg Goddard, University of Florida. Thomas Henderson, ExtremeLabs. Miercom, Inc., Network Consultancy and Product Test Center. David Newman, NetworkTest. Christine Perey, Perey Research & Consulting. Barry Nance, Independent Consultant. Joel Snyder, Opus One.

The new security battle plan

Choose your weapons

You need to deploy a variety of tools to secure your network

Start with

Server security configuration checklists at:
www.cisecurity.com
www.microsoft.com/technet/itsolutions/security/tools/tools.asp
http://httpd.apache.org/docs/misc/security_tips.html
www.sun.com/security/blueprints/

Managed vulnerability scanning services from:
Beyond Security
Foundstone
Mercury Interactive/Sanctum
Qualys
Ubizen

Layer in

Intrusion-detection systems from:
Blue Lance
Cisco
Enterasys Networks
IntruVert Networks
NFR Security
Symantec
Tripwire

Role-based/policy-based controls from:
Entercept Security Technologies
Entrust Get Access
IBM Tivoli Access Manager
IBM Access360 enRole
Microsoft Active Directory with Kerberos and Group Policy Objects
Netegrity SiteMinder
Oblix NetPoint
Okena
Palisade FireBlock
PentaSafe Security Technologies
RSA Security Clear Trust

Application security from:
Ingrain Networks
Sanctum
Ubizen
Whale Communications

Top off with

Trusted/hardened operating systems from:
Argus Systems Group
Hewlett-Packard
Sun

CAUTION DO NOT ENTER

The new rules of engagement for network security: Trust no one, authenticate everyone, protect important data wherever it is.

■ BY SUZANNE GASPAR

Security used to mean setting up a firewall as a perimeter line of defense with trusted users on the inside and untrusted users on the outside. But in today's world of remote workers, trading partners, e-commerce customers and internal hackers, that perimeter line has been blurred beyond recognition.

An effective security strategy needs to be far more flexible and sophisticated than just posting a guard at the gate to your network. The new model for network security calls for protecting data wherever it is and trusting no one completely wherever they are, according to security experts.

The recommended approach is to classify data based on its importance and then to set up different layers of protection. The same goes for users. They need to be classified for the purposes of authorization based on their roles and their need to access specific applications. And the network needs to be divided into zones based on trust levels.

There are a variety of tools at your disposal. Antivirus software, encryption and VPNs can scour and shroud your data. Passwords, smart cards and policy enforcement software can guard servers and network zones from unauthorized access. The strongest, yet most expensive, armor lies in trusted or hardened server operating systems.

Once the tools are in place, you need to monitor the effectiveness of your efforts through internal traffic monitoring, logging and auditing, which can provide pre-emptive analysis and alerts for fending off attacks.

Policy first

A secure network starts with a policy that has budget support and executive-level backing. It's the policy that determines the architecture and infrastructure needed to secure your data. It defines user roles and enforces access to information.

"Who needs access to what" is the biggest decision an organization needs to make, says Doug Jacobson, CTO for Palisade Systems, a security device manufacturer in Ames, Iowa.

It might be human nature to trust the people you hire, Jacobson says, but it's not a good way to approach security. "The tendency is to give more access than should be, either because it's easier or because somebody asks for it," he says.

Users exceeding their level of access is a major problem that affects 60% to 75% of companies, says Gartner analyst John Pescatore.

At minimum, companies need to control access

via role-based authorization tools. And for companies that allow network access to business partners, contractors or alliance members, these controls need to cross organizational boundaries. "Companies can get burned when their business partner turns into a competitor," Pescatore says.

"They are not really outsiders because they have a trusted door on your network," Jacobson says. "If they are a cause of a problem, intentional or unintentional, policy can say to sever the connection or have varying degrees of reaction."

Policy-based access controls can limit individual access to specific servers, applications and even to different documents within an application. The recent ratification of the XML-based digital signature standard and the XML-based encryption standard will allow access control at the data level within a specific document, so that some of the data fields get encrypted.

"It has always been talked about, and essentially been impossible to do," Pescatore says. The ability to encrypt specific parts of a document previously existed only in specialized electronic-forms applications, such as Adobe Acrobat, and has not been possible with Microsoft Word documents or Oracle databases.

Modern security architecture is about letting people in, but not giving them more access than needed, says Jeff Drake, executive vice president and co-founder of Access360, an Irvine, Calif., software manufacturer. "There's a difference between granting you access to our sales database and granting access to specific data in the database," he says.

Policy needs to be the broad umbrella under which role-based access, even time-based access control, can be enforced, Pescatore says.

Hardening the operating system

The strongest security protection available today is a trusted operating system or software used to harden operating systems. But few companies have been willing to harbor the expense and administrative burden of using these technologies to lock-down data and systems.

"Today, it's government, but in the future more financial businesses are going to say, 'Even while we know it's you on the network, we want to watch what you're doing,'" Pescatore says.

The idea of not trusting trusted users is gaining momentum in the merchant world. Visa is ratcheting up the pressure on online merchants to encrypt specific types of information. Visa also is sensitive to the expense in requiring merchants to harden all server operating systems when only the credit card numbers are its concern, Pescatore says. "Visa's saying there's a need to protect specific information, but it's not necessary to harden every server to do that," he says.

But for businesses that have a need, a trusted operating system or a hardened operating system is the best internal defense. These systems let users in but only let them access certain applications or files, and prevents users from making unauthorized changes.

They isolate applications at the operating system level to eliminate the problem of a hacker taking over a whole machine. They can restrict port activity, access to other systems, and essentially will let you define the limits of a program's actions.

However there are cost and other issues with deploying trusted and hardened operating systems. First, there is an expense because you need to install the new operating system manually on every server and update it when new versions are released.

"Who needs access to what" is the biggest decision an organization needs to make.

Doug Jacobson
CTO, Palisade Systems

And staffers need to be trained in how to administer a slightly different version of the operating system, Pescatore says. "When a new version of an application comes out, it may not work with the hardened or trusted version of the operating system," he says.

While trusted operating systems offer good security, they also can conflict with other applications. As a result, someone might decide to uninstall the trusted software, Pescatore says. "I'm the Web master, and my pager goes off at 2 in the morning. I find the Web server's down. I rip out the security software and the Web server works again," he says.

A firewall on every server

A lower-cost option is to deploy firewalls that are integrated into the operating system. Multiple firewalls and network zones can be deployed to protect access to internal network resources.

The impending launch of Web services will require companies to make their internal networks more secure. "If you think about it, what Microsoft .Net and what SunONE, all these Web services, are doing, is making it easier for an application inside the firewall to talk to an application outside the firewall," Pescatore says. "That connection going through the firewall means it's landing on some internal server, and that server better be secure."

Microsoft might need to make its own operating system more secure, and just like Solaris9 now ships with a built-in firewall, Microsoft .Net also might be shipped with a firewall built in to the operating system, he says.

Having a firewall built into the operating system means you can have a firewall on every server, and that's less expensive than putting a firewall in front 1,000 servers at a cost of $5 million. The cost of a firewall built into an operating system is negligible, Pescatore says. "Solaris9 is the same price, but it just has a firewall built in," he says.

A built-in firewall is similar to deploying a trusted or hardened operating system because it provides integrated management of the operating system and the firewall. It's different because firewalls focus on protocols and connections, and less on software running on the server.

Zone defense

Segregating critical resources into network zones is a common security practice for assigning different privileges and controls. Christophe Huygens, CTO for Ubizen which offers managed and application security services, says most companies typically establish four zones: an untrusted external segment, a completely trusted internal segment and two boundary zones where information is served up to the outside world via Web servers, mail gateways and domain name servers.

The zone that needs top security gets trusted operating systems, the moderate security zone gets policy enforcement software, at the very minimum. But firewalls and trust zones need to be employed on the internal network in conjunction with monthly vulnerability assessments, Pescatore says.

"We're advocating that companies consider managed services to perform vulnerability scanning on a daily basis," he says. Companies tend to scan internal servers less when they are inside the firewall.

"That's been a major issue because there's so many servers," he adds.

It comes down to money and a decision on whether the cost of compromised data, such as stolen credit card numbers, justifies the expense of implementing strong security measures, says Jacques Hale, a Butler Group Associate analyst. "Security's not cheap, but there's a cost in not having it," he says. ■

CAUTION DO NOT ENTER CAUTION DO NOT ENTER CAUTION DO NOT ENTER CAUTION DO NOT ENTER

Six tactics to minimize internal security risks

Assign administrative rights to multiple staff; perform background checks; apply logging and auditing.

Arm laptops with personal firewalls, VPNs, authentication software and encryption.

Control data access with policy, zones and firewalls, encryption and trusted or hardened operation systems.

Employ host-based and network-based intrusion-detection systems on internal systems, servers and desktops.

Monitor internally for unauthorized Web and FTP servers, peer-to-peer file sharing and file altering.

Update and test application patches; validate configuration changes; compare alerts data to log data.

SOFTWARE SOLVES
UNEXPECTED SPIKE

IBM

BOY BAND SINGS
UNEXPECTED HIT

CIO GETS
UNEXPECTED PRAISE

Tivoli. software

SELF HEALING PLAY

1] WIN WITH SELF-MANAGEMENT: Whether it's boy bands or rubber bands, software that effectively manages an e-business is essential. But software that corrects problems before they occur? That's extraordinary.

2] WIN WITH TIVOLI: Unlike other solutions that tell you you've violated a service level agreement after the fact, Tivoli software detects trends and makes adjustments before things go awry. Tivoli. Part of our software portfolio, including DB2®, Lotus® and WebSphere®.

3] MAKE THE PLAY: Visit **ibm.com**/tivoli/unexpected and download a free buyer's guide on how to meet your service level agreements.

e.business is the game. Play to win.™

...ally ...poration. ...reserved.

A radical approach to security

■ BY SUZANNE GASPAR

John Taylor, chief technologist for DuPont's IT department in Wilmington, Del., wants to turn his network inside out.

Like most IT executives who focus on security, Taylor faces a dilemma. He needs to let outsiders, such as business partners, access his network servers. He also needs to provide easy access to the network for employees who are working outside the firewall.

But if his network defenses are porous, how does he keep out viruses? How does he keep out hackers? How does he keep employees inside the firewall from opening executable files that wreak havoc?

One radical fix might involve putting all the client desktops on the Internet, Taylor says. By putting everybody on the outside, network security becomes conceptually easier because the whole notion of the insider goes away.

Taylor emphasizes that this idea is still in the planning stages. "We have a distinctive approach under study. We are figuring out what it will take to roll it out," he says.

More than half of DuPont's 65,000 PCs are portable, and they already go outside the perimeter for legitimate business purposes.

Those laptops are equipped with VPN software from Aventail to ensure a secure connection while the devices are remote. But viruses can infect the laptop and begin to spread when the user connects back at the office.

"I am potentially exposing myself to the risks of pathogens that I can carry back in to the office," Taylor says. "It is potentially lethal stuff coming from all over the place."

Putting all the desktops on the Internet simplifies enterprise security because there aren't any outbound requests going through the perimeter, just inbound requests, Taylor says. Traffic is limited to only what the servers expect, which creates a more manageable situation and a stronger security policy.

"You essentially face two choices, separate desktops from servers or create a private network for the desktops, another for your servers and then apply security," he says.

Taylor says managing two private networks is unaffordable. But because the bulk of his desktops already visit the Internet anyway, his strategy, if implemented, would be to cut the LAN cables between desktops and servers and provide the desktops with added security features such as personal firewalls, antivirus and VPN software, and RSA Security SecurID tokens for authentication.

Taylor understands that this model might not be popular with users, who would need an increased level of technology know-how because they would be required to manage their personal firewall and to pass through new authorization and access control gateways.

"You might think of it as a new form of literacy. In a wired society there's a literacy requirement to maintain your own safety," Taylor says.

He says IT's task would be to make the outsider experience for connecting to the network just as easy as it was when users connected directly over a coaxial LAN cable. "We can't afford to have a personal mechanic on the front door step for every user. We'd want to reduce that cost to zero," he says.

Christophe Huygens, CTO for Ubizen, says Taylor's [illegible] there are some serious obstacles.

First, personal firewalls, encryption software and other security measures performed on an end user's desktop can be intrusive (lose of power, for example) and can use up a significant amount of network resources, slowing the computer.

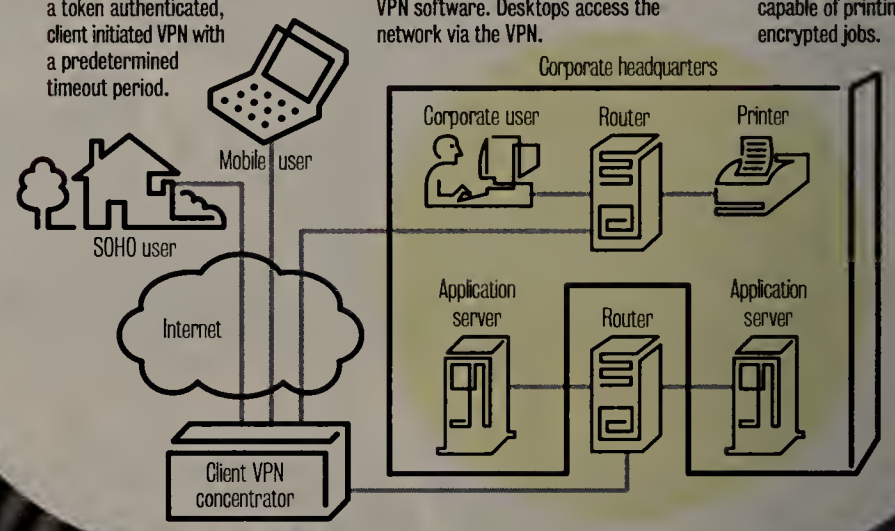
"It's difficult to build a secure desktop, and to ensure that the security stays in place," Huygens says.

Then, there's the whole issue of management. Huygens says he would perform tasks such as simple software upgrades through [illegible] Microsoft or Tivoli Systems management console when the desktops are directly connected to the LAN management console. ■

In through the out door

DuPont is considering taking 65,000 desktops off the corporate LAN and requiring end users to access the network through a VPN.

1. SOHO and mobile users access the network via a token authenticated, client initiated VPN with a predetermined timeout period.
2. Desktops are equipped with personal firewalls, antivirus software and client VPN software. Desktops access the network via the VPN.
3. Every printer is networked and capable of printing encrypted jobs.



John Taylor, chief technologist at DuPont, is looking into a different approach to security by putting all the client desktops on the Internet.

WebSphere. software

INTEGRATION PLAY

1] WIN WITH INTEGRATION: Nothing fishy about it. For an e-business to thrive, all your business processes, from supplier to customer, must work together seamlessly. It's the key to a profitable infrastructure.

2] WIN WITH WEBSPHERE: As the world's #1 integration software, WebSphere is the leading software platform for integrating business processes, applications, platforms and people. WebSphere. Part of our software portfolio including DB2,® Lotus® and Tivoli.®

3] MAKE THE PLAY: Visit **ibm.com**/websphere/integrate and see a Webcast on how WebSphere can help cut integration costs.

*e*business is the game. Play to win.™

NEEDS TON OF TUNA

LANDS TON OF TUNA

HAS HANKERING FOR SUSHI

IBM

Results from the IDC Worldwide Integration Server Software Platform Forecast, 2002-2006. ©2002 IBM Corporation. IBM, DB2, Lotus, Tivoli, WebSphere, e-business and the e-business is the game. Play to win are registered trademarks or trademarks of International Business Machines Corporation in the United States and/or other countries. All rights reserved.

Management

Strategies

- CAREER DEVELOPMENT
- PROJECT MANAGEMENT
- BUSINESS JUSTIFICATION

Don't try this at home . . .

IT pros have an unusual take on getting respect from the company.

■ BY GEORGE NEZLEK, MARGARET ANN JORDAN AND FREDRIC GOLMAN

For those who escape the office long enough to watch television, most are familiar with the disclaimer that scrolls by during automobile commercials: "Professional driver on closed course — do not attempt these maneuvers" or something like that. With so much of our lives defined by specialists we rely on, why do so many otherwise intelligent executives utterly ignore their IT experts?

It's gotten so bad that a *Network World* columnist went so far as to suggest that IT professionals might be using the request for proposal process to slow the relentless march of IT progress (see www.nwfusion.com, DocFinder: 2421). Well, after a few virtual cocktails in cyberspace, we think we've figured out why this is.

Surely, it all began with calling them "personal" computers. Yes, the machines fit on your desktop and actually can be used by one person at a time. But we are drowning in individuality. How many different kinds of clip art are needed to dress up a memo? And — darn — Minesweeper and Freecell aren't really productivity applications after all.

Although most of us managed to survive the desktop computing onslaught, there's a whole new invasion of devices such as PDAs that end users think of as individual purchasing decisions. They don't need your help until a few hours later, when the thing "needs" to synchronize with the corporate calendar system. These devices pose an ever-greater challenge to the unfortunate souls responsible for coordination, integration and upgrades. And we shudder to think about wireless LANs.

It's not difficult to imagine how many IT executives wish they could institute some purchasing guidelines for their fellow vice presidents' Sunday afternoon trips to some electronics boutique that will inevitably create a new layer of complexity for corporatewide applications.

The next challenge for IT folks is to get around the vendors increasingly upset with IT departments rejecting their overtures on the basis of finding no compelling technical reason to buy the "next great thing," vendors often direct their attention to non-IT groups. The goal is to sidestep competent evaluations and get their product stuffed down some poor IT director's throat. This is hardly a new strategy on the part of vendors, but historically many non-IT folks were at least willing to accept the rationale that a given product simply didn't fit into the strategic plan.



SUSAN SYNARSKI

We even briefly fantasized that some IT "solution providers" actually might refer to the goods, service or whatever they sell as a "product" rather than a "solution," but what appear to be excess RFP requests slowing things down may simply be a way to buy some time to make coherent technology acquisition decisions.

Intoxicated by our analysis, we then wondered what organizations actually might DO to, well, deal with these problems. Admittedly, these recommendations will betray our inebriation but we've decided to share them anyway.

- Start with a viable strategic plan. This could even be one that might extend beyond the next two or three reporting periods. We love the TV commercial featuring the two consultants who deliver their recommendations to the CEO who tells them to go and implement them. Their response is that they only make recommendations and don't know how to actually do anything.

Assuming there could be a real plan (as opposed to one crafted by a consulting firm that is now in Chapter 11) and it's includes live, real document that has measurable, realistic goals and some sort of road map to achieving them, the great heresy will be to let IT management in on "the secret" of what the strategic plan actually IS. It's amazing how often this does not happen.

- Hire IT staff the organization actually can TRUST to make appropriate, well-informed decisions about IT and how it relates to the strategic plan. It admittedly gets preposterous. We figured if there was a plan, and IT management actually knew about it, and the organization actually trusted them, it would be possible to let them make decisions that are not subsequently circumvented because some senior non-IT executive had a luncheon, golf game, theater tickets, weekend at a resort, etc., at some vendor's expense.
- Don't assign false blame. Sobriety began to rear its ugly head when we considered what might happen if our talented, informed, empowered IT management should make unacceptable decisions. Some basic notion of accountability would suggest that organizations should get rid of them (as opposed to reassigning them to maintenance coding), but it just plain isn't fair to hold their feet to the fire for someone else's bad choices.

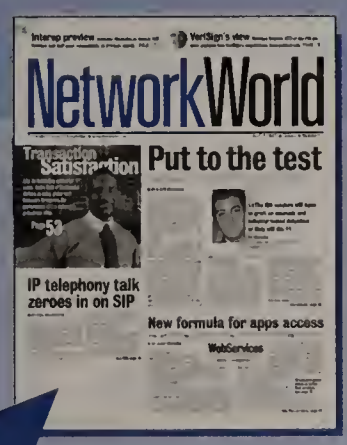
Hey, forget about the plan. The vice president of marketing says the guys at that new software store want to take us out for drinks!

Nezlek is assistant professor of Information Systems at Loyola University in Chicago, Jordan is an independent consultant, and Golman is president of Internet Television Network. They can be reached at gnezlek@wpo.it.luc.edu, mjordan117@aol.com and fgolman@intv.net, respectively.

Reading someone else's copy of Network World?

Apply for your own **Free** subscription today.

subscribenw.com/b02



Free subscription
(51 Issues)

To apply online go to
subscribenw.com/b02

subscribenw.com/b02

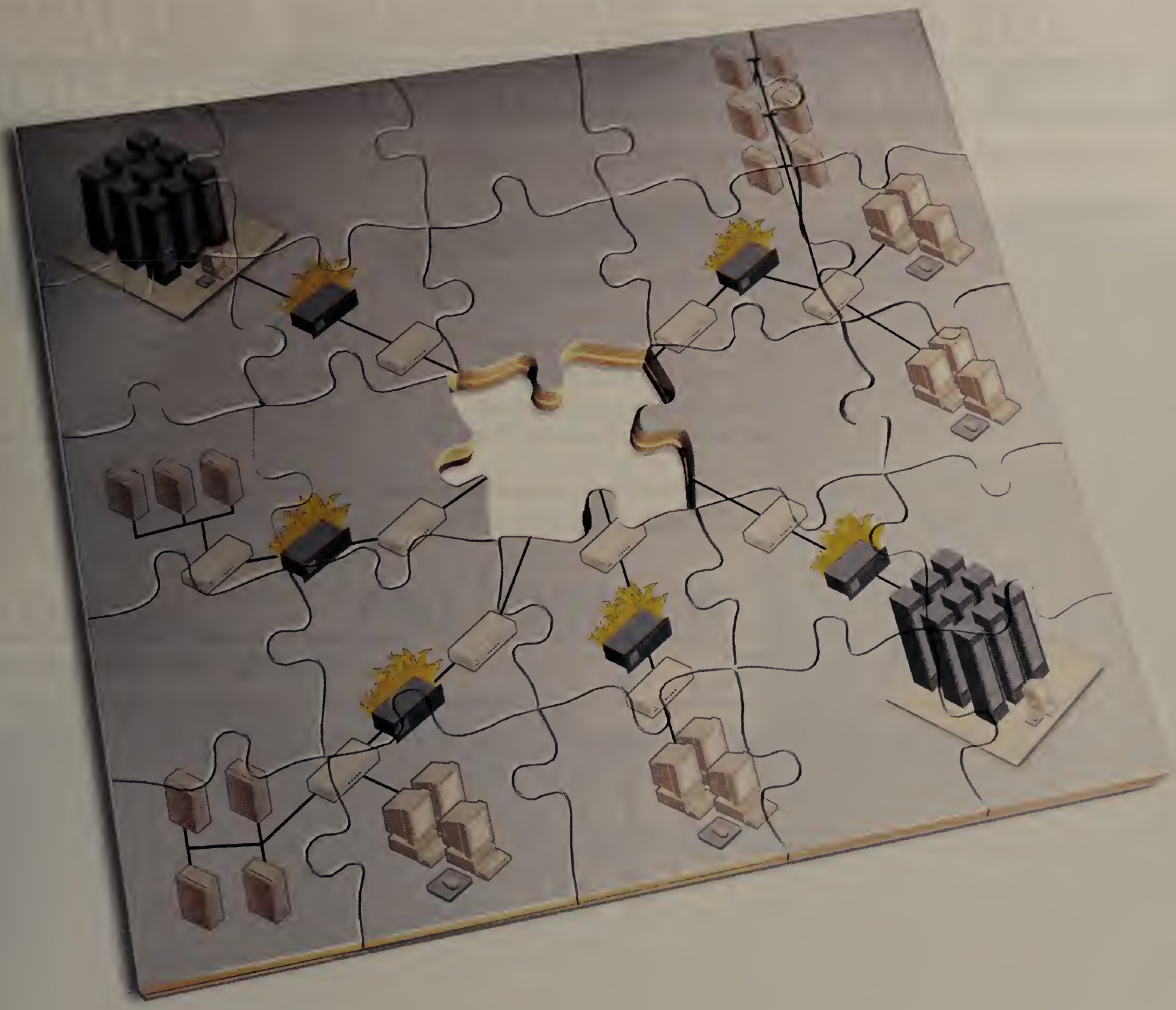
Apply for your

free

subscription today!

(A $255 value - yours free)

Finally - the missing piece!



Today's ever-growing data centers make it harder than ever to get hands-on control of all your servers and network devices. Now you can have direct access to every device in your data center from any location, all from a single screen. Manage and maintain servers in your local rack or across the world.



Total system control over analog or IP connection means complete 'at the computer' troubleshooting from anywhere.

Now it's all falling into place. Avocent's advanced analog and digital KVM solutions - the perfect fit for the server room and enterprise.

For the complete picture, download a free KVM Tech Guide today at www.kvmguide.com or call 1-866-AVOCENT (286-2368), ext. 3006.

Avocent

The Power of Being There™

Avocent, the Avocent logo, "The Power of Being There", KVM over IP, DSR, DSView, DS1800, and CPS are trademarks of Avocent Corporation. All other marks are the property of their respective owners. Copyright © 2002 Avocent Corporation.

REMOTE CONSOLE MANAGEMENT SOLUTIONS

Access Serial Console Ports... from Anywhere!

OUT-OF-BAND + TELNET



CMS

- Multi-Session Telnet
- 8, 16 or 32 Port Models
- Non-Connect Port Buffering
- AC and -48VDC Power Options

OUT-OF-BAND + MODEM



APS-8M

- Internal 33.6 Kbps Modem
- Seven DB-9 Serial Ports
- Any-to-Any Port Switching
- Co-Location Password Features

OUT-OF-BAND



APS

- 4, 8 or 16 Port Models
- Port Specific Passwords
- Safe "Break" Features
- Datarate/Flow Control Conversion

WTI's family of remote site management products allows network administrators to manage network elements located anywhere. WTI designs and manufactures in-band and out-of-band console and terminal switches, remote reboot and power management solutions, rack mounted modems and automated A/B Fallback Switches.

■ Features included in all Console Switches

wti

www.wti.com

(800) 854-7226

western telematic incorporated
5 Sterling • Irvine • California 92618-2517

*Keeping the Net...**Working!***

Broadband wireless that works for you



- Campus Mesh NEW
- Point-to-multipoint
- Building-to-building
- Backbone

wave
WIRELESS NETWORKING
www.wavewireless.com
800-721-WAVE (9283) • 941-907-2300 • FAX 941-355-0219

New Technology!

Eliminate Dangerous Hot Spots in Your Racks

Introducing APC's New NetworkAIR™ RM Air Distribution Unit

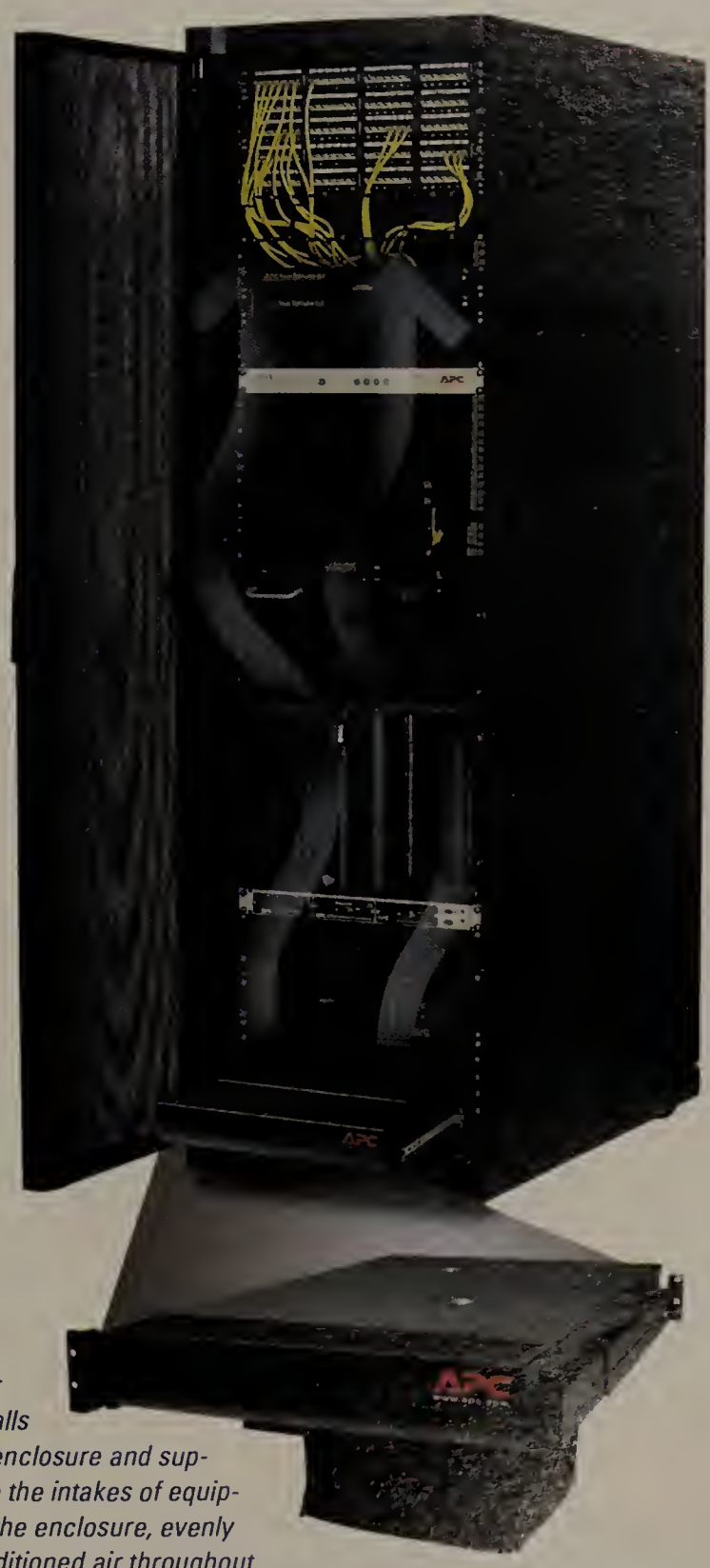
As heat densities continue to grow at an alarming rate, the traditional methods of distributing air in a computer room aren't adequate to deliver the necessary airflow required to cool today's data center environments.

APC presents the NetworkAIR™ RM Air Distribution Unit, a compact 2U rack-mounted fan unit that works with an existing precision air conditioning system to deliver cool air to the equipment contained in a rack enclosure. An air curtain is evenly distributed to the front of the enclosure which provides consistent temperatures from top to bottom.

Visit *www.apc.com* to see APC's complete line of award-winning power and cooling solutions.

Benefits of APC's Air Distribution Unit:

- Increases airflow to rack equipment
- Works in both raised floor and non-raised floor environments
- Compact 2U design
- Minimizes air mixing
- Helps maintain optimal environment for high reliability
- Improves air quality through 30% efficient air filtration (as per the ASHRAE 52.1-1992 standard)
- Evenly distributes cool air, improving air circulation inside the rack
- Ensures maximum uptime with redundant, dual, independently controlled blower fans and A-B power input feeds
- Fits APC's NetShelter® VX enclosure or other 19" EIA-310-D enclosures with removable bottom plates



The compact (2U) Air Distribution Unit installs at the bottom of the enclosure and supplies an air curtain to the intakes of equipment located within the enclosure, evenly distributing cool conditioned air throughout.

Visit APC at InternetWorld booth #858



Enter to WIN a FREE NetworkAIR™ RM Air Distribution Unit

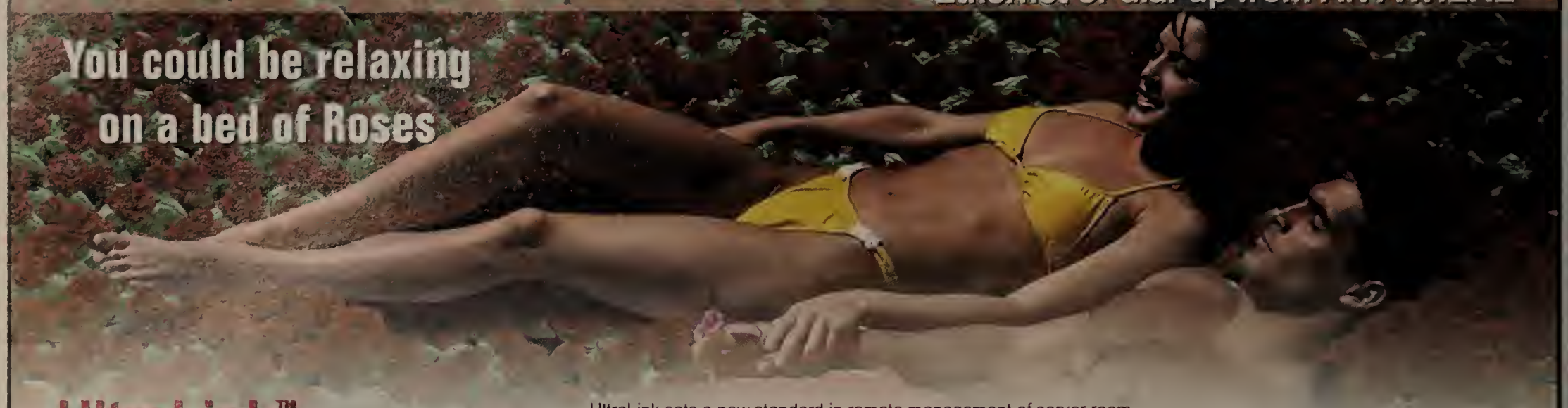
Visit APC's Web site at: *http://promo.apc.com* Enter Key Code g478y Call 888-289-APCC x6477 Fax 401-788-2797

©2002 American Power Conversion Corporation. All Trademarks are the property of their owners. NA2A2BF-USa
E-mail: esupport@apcc.com • 132 Fairgrounds Road, West Kingston, RI 02892 USA

KVM Access over IP

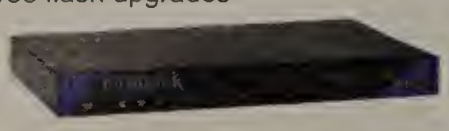
Manage 1000's of computers via Ethernet or dial-up from ANYWHERE

You could be relaxing on a bed of Roses



UltraLink™

- Connects to standalone computers or any KVM switch
- High quality 16-bit video at up to 1280x1024 resolution
- Easy to install, give it an IP address and run the Viewer program, no user license required
- Encrypted communication produces highly secure operation
- Scaling and scrolling features for maximum flexibility
- Single mouse cursor simplifies user interface
- See four servers from one screen with quad screen mode
- Lifetime free flash upgrades



UltraLink sets a new standard in remote management of server room environments. It saves you money by allowing you to centralize your IT resources. Since it does not depend upon software loaded on your computers, it deploys easily and works on any operating system, such as Windows, Linux, Solaris, Unix, or OSX.

The UltraLink digitizes the remote computer's video. It then scales, compresses, encrypts, and packetizes it into the TCP/IP protocol. At your PC the free Viewer application receives and displays the video and sends back keyboard and mouse data. This process allow you to access remote computers from anywhere.

Rose is a leading manufacturer of switching, extension, and access products. As a KVM industry pioneer, Rose is known for its technically superior and price competitive products.

Join the ranks of many successful companies using UltraLink, call Rose to learn more about KVM Access over IP as well as KVM Switches and Extenders.

Rose Electronics
10707 Stancliff Road
Houston, TX 77099

USA toll free	800 333 9343
ROSE US	281 933 7673
ROSE Europe	+44 (0) 1264 850574
ROSE Asia	+617 3427 5353

WWW.ROSE.COM

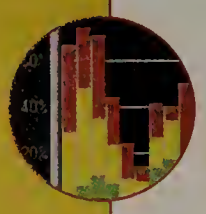
ROSE ELECTRONICS

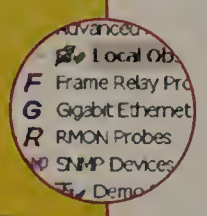
There Is A Better Way To Troubleshoot & Manage Your Network

OBSERVER

EXPERT OBSERVER

OBSERVER SUITE





Quickly Pinpoint, Pre-solve & Prevent Network Problems



Observer®—*Quickly identifies network trouble spots and costs thousands less than expensive hardware-based analyzers.*

Observer provides metrics, capture, and trending for both shared and switched environments.

- ***Full packet capture and decode*** for over 500 protocols, including TCP/IP (v4 & v6), NetBIOS/NetBEUI, XoIP, SNA, SQL, IPX/SPX, Appletalk and many, many more!
- ***Switched mode sees all ports*** on a switch gathering statistics from an entire switch or capture/statistics from any port(s)
- ***Long-term network trending*** collects statistical data for days, weeks, months, even years
- ***Real-time statistics*** include Top Talkers, Bandwidth, Protocol Statistics, and Efficiency History
- ***Ethernet (10/100/Gigabit), Token Ring, FDDI, and Wireless 802.11***—no need to purchase separate tools

- ***Windows® 98/Me/NT/2000/XP compatible***
- ***Over 4,000 frame types recognized***

Expert Observer—*Identifies problems and provides Expert information in plain English.*

Includes all of the features of Observer plus real-time and post-capture expert event identification and analysis—new SQL and Frame Relay experts add to the many other protocols covered, time synchronization technology, and modeling of network traffic.

Observer Suite—*The ultimate tool for the most demanding power user.*

Provides a full complement of tools that includes all of the features of Expert Observer plus SNMP management, RMON console/Probe and Web reporting. Includes one remote Probe.

If you have any network problems, find out the cause with Observer, Expert Observer, or Observer Suite.

Observer $995 *Expert Observer $2695* *Observer Suite $3995*

Call 800-526-7919 or visit us online for a full-featured evaluation:

WWW.NETWORKINSTRUMENTS.com

US (952) 932-9899 • Fax (952) 932-9545 • UK & Europe +44 (0) 1959 569880 • Fax +44 (0) 1959 569881

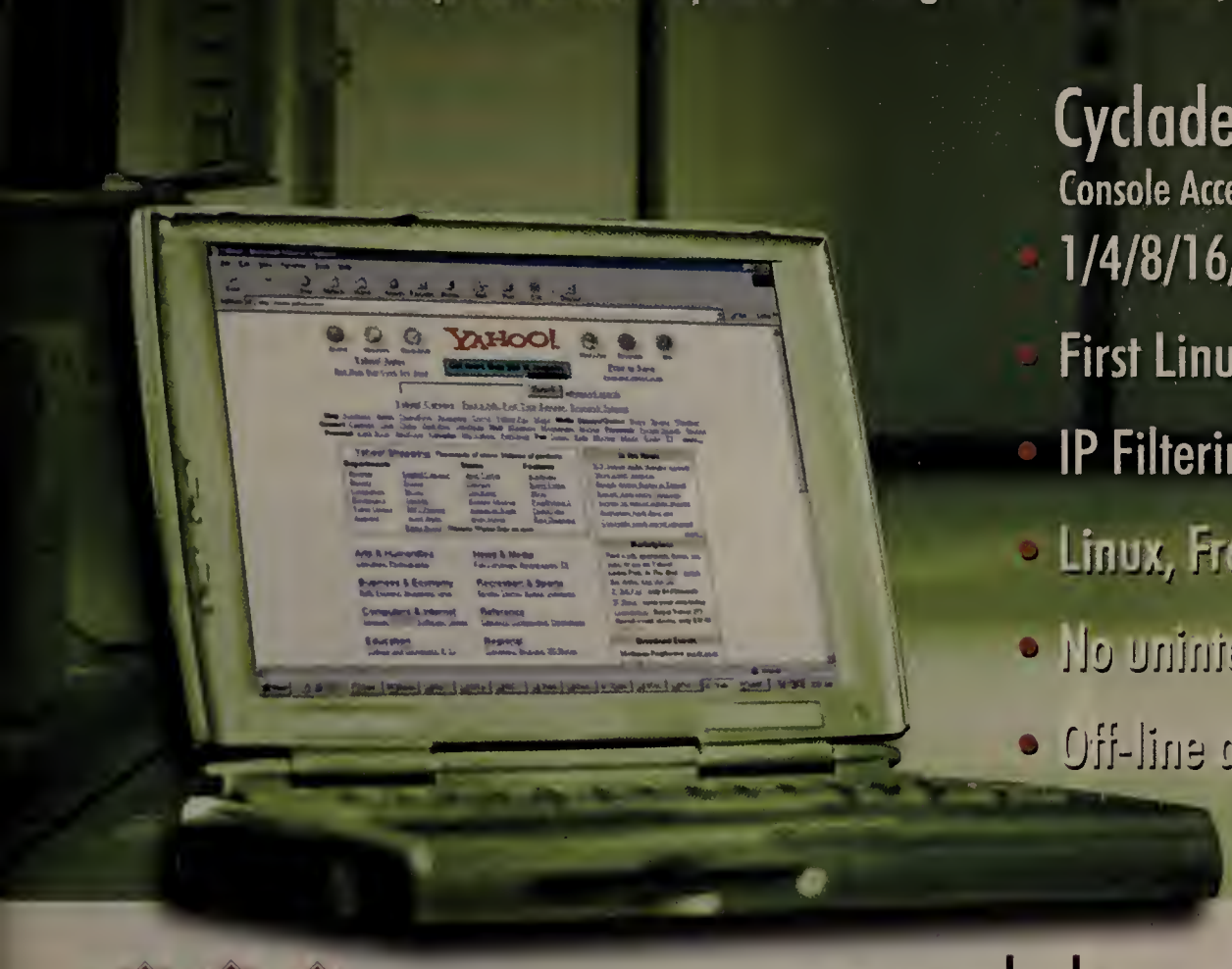
NETWORK INSTRUMENTS

©2002 Network Instruments, LLC. Observer, "Network Instruments" and the "N with a dot" logo are registered trademarks of Network Instruments, LLC
All other trademarks are property of their respective owners.

Guess what Yahoo!® uses to manage their servers?



"The Cyclades-TS Series of Console Access Servers provides the highest port density and security at a very competitive price. By using Linux as the embedded OS, it offers the flexibility required to manage our dynamic environment. The Cyclades-TS is a key element to help us keep our servers up and running." - ***Pete Kumler,*** *Manager of Site Operations, Yahoo! Inc.*



Cyclades-TS Series

Console Access Server

- 1/4/8/16/32/48 RS-232 ports on 1U of rack space
- First Linux®-based Terminal Server on the market
- IP Filtering, RADIUS, and Secure Shell (SSHv2)
- Linux, FreeBSD, Sun, HP, and IBM compatible
- No unintentional breaks (Sun)
- Off-line data buffering

Request for your FREE CAS booklet at www.cyclades.com

THE LEADER IN LINUX CONNECTIVITY

www.cyclades.com/nw

1-888-CYCLADES 1-888-292-5233
510-770-9727
sales@cyclades.com
Fremont, CA

CYCLADES

©2002 Cyclades Corporation. All rights reserved. All other trademarks and product images are property of thier respective owners. Product information subject to change without notice.

Sentry : PowerTower

How do you reboot 16 equipment units...



using Zero U of rack space?

Sentry POWER TOWER : Your Zero U Reboot Solution



16 remotely addressable power outlets — The highest density available of any Remote Power Management vertical strip.

30-amp power input feed distributed across 16 outlets.

Mounts vertically in your equipment rack or cabinet and requires Zero U of rack space.

Load Sense provides real-time current monitoring in the remote screen interface and through a built-in LED display for on-site measurement.

Power-up sequencing of all 16 outlets prevents an in-rush current overload.

Telnet, SNMP, Modem or RS-232 interfaces for easy, practical and secure power management of remote internetworking equipment.



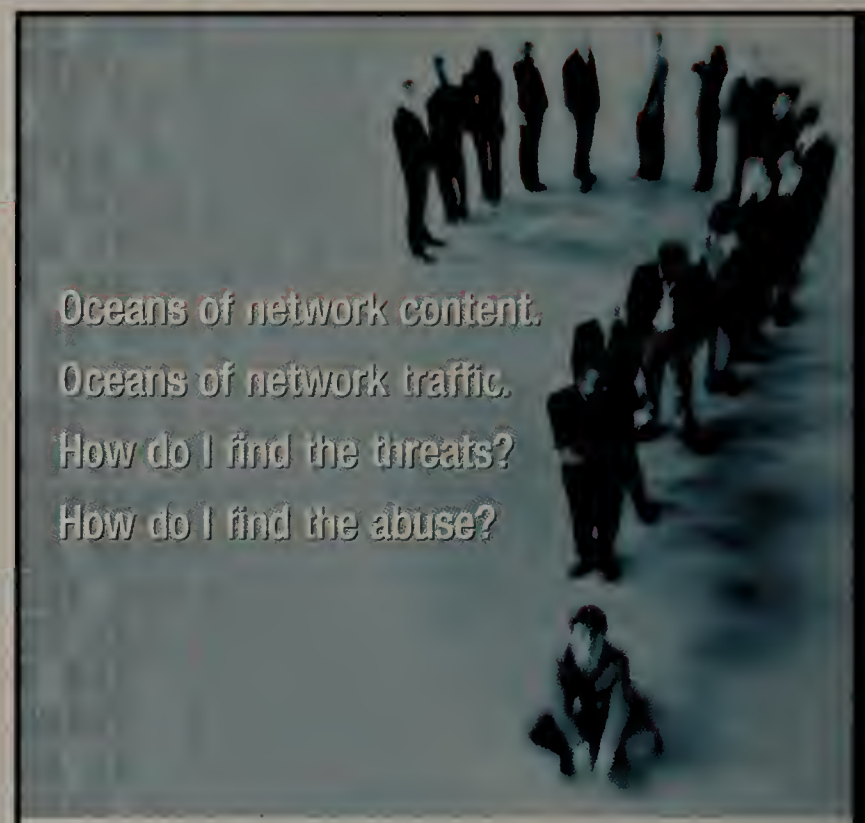
Install the new Sentry Power Tower in your data center, NOC or co-lo facility and gain the advantage of remotely rebooting up to 16 of your equipment units – without occupying any space in your rack or enclosed cabinet.

Try the New Sentry Power Tower in your rack or cabinet and realize the benefits of Intelligent Power Distribution and Remote Power Management.

See our complete product line at **www.servertech.com** or call **800.835.1515** or **775.284.2000**

Another great product from
Server Technology, Inc.

© Server Technology Inc



Oceans of network content.
Oceans of network traffic.
How do I find the threats?
How do I find the abuse?

PC Magazine's Editor's Choice Award

PC MAGAZINE EDITORS' CHOICE
July 2002
SilentRunner 3.0
SilentRunner, Inc

Computerworld Honors 21st Century Award

SilentRunner is the lens into your network providing the only network security solution that applies state-of-the-art analysis, correlation and 3-D visualization software to network security analysis - exposing threats and abuses that just can't be seen with standard security technologies.



For your free Technical White Paper, visit **www.silentrunner.com** or call 800.842.2366 today.

SilentRunner
A Raytheon Company

17" TFT 1U RACK MOUNT DISPLAYS

- Adjustable length ball bearing slides.
- Also in black and with locking front panels.
- Made in the USA.



With Keyboard and Trackball



With Keyboard and Touchpad



17" Display Only

1-800-729-7654
Web: www.recortec.com
Email: sales@recortec.com

RECORTEC, INC.
1620 Berryessa Road San Jose, Ca 95133
Tel: (408) 928-1480 Fax: (408) 729-3661

GB-1000 Firewall Appliance

New kid on the block?

Hardly...

The GB-1000 Firewall/VPN appliance is powered by the GNAT Box System software – the original, small footprint, high performance firewall system first introduced in 1996. The GB-1000 is deployed worldwide by organizations that desire rock-solid operation and the best price/performance ratio on the market today.

The GB-1000 has many standard features including IPSec VPN, DNS server, failover routing and DHCP services. Optional features such as high availability and 24x7 support are also available.

Visit our web site, email or call for more information.



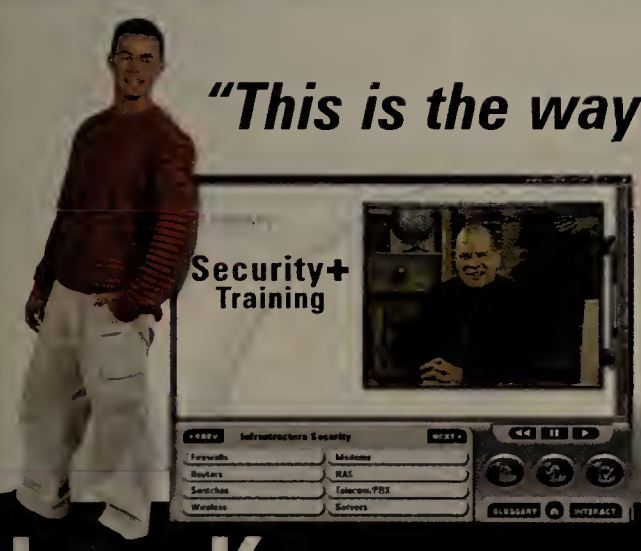
Years: 10
GTA has 10 years experience in developing quality software. Since1994, GTA has been producing solid, dependable, ICSA certified firewalls, with a powerful feature set at an affordable price.

NICs: 4+
The GB-1000 standard configuration includes 4 built-in 10/100 NICs. Expansion options allow the addition of up to 4 more NICs, including Gigabit. Each NIC is fully addressable, allowing flexible configuration.

Users: ∞
The GB-1000 has an unlimited user license and supports 128,000 concurrent connections. Our powerful dynamic network address translation technology and stateful packet inspection engine provide all users with transparent Internet access and proven network security.

Global Technology Associates, Inc.
1-800-775-4GTA • www.gta.com • info@gta.com

icsa labs CERTIFIED Firewall



"This is the way to learn!"

SECURITY

Security+ Training

- Media-Rich Content
- Challenging Labs
- Comprehensive Tests
- Practical & Proven

LearnKey Self-Paced Computer Training



NEW

CompTIA **Security+ Certification** **$265*** reg. $355

Introductory Offer! Limited Time!

15 Year Anniversary Savings!

Network+	4 Sessions	$ 265	reg $ 355
i-Net+	5 Sessions	$ 315	reg $ 425
Windows XP Professional	6 Sessions	$ 370	reg $ 495
Windows 2000 Network Security Design	3 Sessions	$ 195	reg $ 265
Cisco® MCNS	6 Sessions	$ 710	reg $ 945

NETWORK • ONLINE • CD-ROM • VIDEO

Microsoft® • CompTIA® • Novell® • Cisco® • Lotus® • Adobe® • Linux • CIW®

1.800.865.0165 • Available ONLY at learnkey.com/networld

LearnKey

© 2002 LearnKey, Inc. LK002602 Source Code #4048
*Limited time offer, some restrictions. Prices listed are for Single-Users. Please call for Multi-User pricing and Corporate solutions.

---

1 CLICK AWAY

From Being There.



ViGO.
Business Quality Videoconferencing for less than $700.

For more information about ViGO, call 1-800-418-5328.

VCON VISUAL COMMUNICATIONS

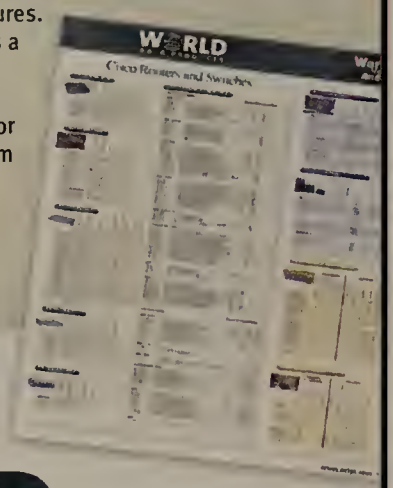
www.vcon.com

Cisco

- Routers
- Switches
- Hubs
- Voice Over IP
- Memory
- Security
- Interface Modules
- Port Adapters
- Wireless

FREE
Cisco Router and Switch Poster

World Data Products introduces its new Cisco Router and Switch poster. It provides at-a-glance information on model capacities, interface cards and available features. The Cisco Poster is a valuable tool for network planning. Call 877.231.2451 or visit www.wdpi.com to request your **FREE** Cisco Router and Switch poster.



WORLD DATA PRODUCTS

Buy • Sell • Lease • Repair • New • Refurbished • Used

www.wdpi.com • 877.231.2451 • cisco@wdpi.com

121 Cheshire Lane, Minnetonka, MN 55305 U.S.A.

Seeking Solutions ... NTI Has The Answers!



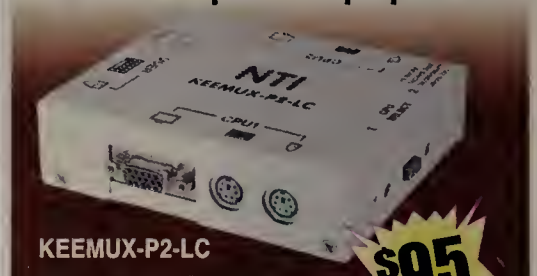
NEW! EASY AFFORDABLE DESKTOP MANAGEMENT

NTI's New KEEMUX-P2-LC provides maximum value and minimum cost!

This low-cost switch gives you:

- **MORE SPACE**— smaller than our standard desktop switch, & clears your desktop of three peripherals.
- **MORE TIME**— save the time you waste moving from one set of peripherals to another.
- **MORE MONEY**— eliminates the expense of one keyboard, mouse & monitor.

"I need to control 2 PC's and free up desktop space!"



KEEMUX-P2-LC
LOW COST PS/2 SWITCH
$95

FREE CATALOG!
CALL 800-742-8324

LOW-COST KVM SOLUTIONS

NTI®
1275 Danner Drive • Aurora, OH 44202
330-562-7070 • FAX: 330-562-1999

BUY ONLINE at www.nti1.com/sn
Email: sales@nti1.com

Dial Access Solutions

PCI Multi-modem Adapters

Provide 4 or 8 V.90/V.34 data and fax modems in one easily-installed easily-configured adapter.

- 4 and 8-port adapters
- Scalable to 32 ports per server
- Lowest CPU utilization
- Installs in minutes
- Requires no interrupts



SST-MM8P PCI

Compare for yourself!
Dial Access at its best!
Equinox Multi-modem Adapters provide up to 44% savings over the leading competitors of similar products.

Try before you buy!
Call 1-800-275-3500, ext. 615 for a FREE 30-day evaluation!
or email: sales@equinox.com

Fax server
Dial access
Data collection
Modem pooling
Internet access

For more infomation on Equinox products visit our website at - www.equinox.com

EQUINOX
an Avocent Company

Training Directory

Contact these companies today to help you with your training needs!

Boson Training
(813) 925-0700
www.bosontraining.com
CCIE, CCNP, CSS1, CCNA, Cisco, wireless, CISSP

Learnkey Inc.
(800) 865-0165
www.learnkey.com
Self-paced online CD network certification developer bus/apps

PMG NetAnalyst
(800) 645-8486
www.NetworkTraining.com
Network Forensic Analysis and Security Training and Services

TechEd Services
(407) 243-6494
www.techedsvcs.com
Customized onsite training for Microsoft, Cisco, Network Associates

WKMN Training
(415) 586-1713
www.wkmn.com
Comprehensive introduction to wireless networking.

George Washington Univ
(202) 973-1175
www.cpd.gwu.edu
Oracle MCSE Network Security UNIX/LINUX I-Net VB.Net XML

IPexpert, Inc.
(866) 225-8064
www.ipexpert.net
CCIE, CCNP, CSS1, CCNA, Cisco, wireless, CISSP

To Place Your Listing Here
Call Enku Gubaie at
(800) 622-1108

NetworkWorld
NetSmart Learning Partner

USED CISCO DIRECT



Pay Less Get More!

- Cisco Systems
- Juniper Networks
- Extreme Networks
- Foundry Networks
- Nortel Networks
- Lucent Technology
- Alcotel
- Riverstone Networks

www.digitalwarehouse.com
DIGITAL WAREHOUSE
The No. 1 Source For Used Cisco Direct®

Phone: **800-439-8558** or 718-894-7500
56-29 56th Drive, Maspeth, NY 11378 USA ▪ Fax: 718-894-1573

Smartronix

SERVER ROOM
Temperature Sensors

As Low As... $129.99

Multiple Models Including:



THL-100
(Battery powered)
THL-100 AC/DC
(Continuous monitoring)
THL-100 AC/DC Plus
(Email alarms)

- Records Temperature, Humidity & Light
- Time Stamped Data for Detailed Analysis
- Windows-based SmartSensor Software
  - Data or graphical view
  - Easily exports to common spreadsheet software

Toll Free 1-866-442-7767
www.smartronix.com/products

Average Order Assembly: 10 Minutes
Give us a break, it's a 26,000 sq. ft. warehouse.



We sell, buy, and lease the best new and refurbished networking equipment and systems at the lowest prices anywhere.

Isn't it about time you made the smart choice?

Trust the Experts... *We Specialize In...*

Continental COMPUTERS Since 1984

Cisco Systems Authorized Reseller | digital COMPAQ Alpha SYSTEMS

These logos are a trademark of their respective companies and services

www.conticomp.com · 310.416.1200



FIBER OPTIC SOLUTIONS

- T1/E1 & T3/E3 Modems
- RS-232/422/485 Modems and Multiplexers
- IBM 3270 Coax, AS/400 Twinax, and RS/6000 Modems and Multiplexers
- LAN - Arcnet/Ethernet/Token Ring
- Video/Audio/Hubs/Repeaters
- ISO - 9001

s.i.TECH

Toll Free 866-SITech-1
630-761-3640, fax 630-761-3644
www.sitech-bitdriver.com

View Cart Clear Cart

FIBERDYNE LABS
Fiber Optic Networking Products

FACTORY DIRECT FIBER OPTIC PRODUCTS

Jumpers, Pigtails, Termination Boxes, Preconnectorized Backbone Cable, Mode Conditioning Cables, Ethernet Converters and Switches, CAT5 Products, Photonic Devices

www.fiberdyne.com

FIBERDYNE LABS, INC.
1-(800) 894-9694
(315) 895-8470
Fax (315) 895-8436

WRCA.NET
NEW USED
Worldwide Provider of Network Hardware since 1981

AUTHORIZED RESELLER
Access/Routers/Switches
Cisco Livingston Ascend
3Com US Robotics Kentrox
Adtran BayNetworks Xyplex
Computone Digital Link
Modems / DSU / Muxes
IBM UDS Codex Hayes GDC
Micom Microcom Paradyne
ATT MultiTech Penril
Racal Telebit Zoom
WE BUY AND SELL
www.wrca.net
800-699-9722

Since 1985

We Buy & Sell **CISCO**

New & Used
Fully Guaranteed
Overnight Delivery

Se habla Español
Wir sprechen Deutsch

800.451.3407
0 Castilian Drive, Suite 110, Santa Barbara, CA 93117

Routers
Switches
Interface Modules
Access Servers
Accessories

www.networkhardware.com
BUY ONLINE

NETWORK HARDWARE RESALE

Advertise in the Marketplace and watch your sales come pouring in!



Call Direct Response Advertising
1-800-622-1108

NORTEL NETWORKS

3Com | Cisco Systems | Cabletron Systems | Bay Networks

BROWSING THE AUCTIONS?
Consider What You Get:

National LAN Exchange	Auctions
• Nortel Service Contracts	• No Service Contracts
• Nortel Service Renewals	• No Service Renewals
• Next-Day Hardware Replacement	• No Replacements, No Guarantees
• Free Technical Support	• No Support
• One Year Warranties	• No Warranties
• New and Used Equipment	• Who Knows?
• Hundreds of Pieces in Stock	• Sometimes Available, Sometimes Not
• Design/Install Services	• No Services
• Fast Overnight Delivery	• Inconsistent Delivery



Make the Smart Choice

www.NLE.com
New/Used • Buy/Sell
National LAN Exchange

888-8LANWAN
(888-852-5926)

TUMI®

See the entire Generation 3.0 collection at:

BRETTS

Luggage. Leather goods.
Gifts Pens. Clocks.
Lighters. Games



www.suitcase.com

Buy, Sell or Announce Network Products & Services with Network World's Marketplace Call 800-622-1108 ext. 6507

NetworkWorld NetSmart

SECURE YOUR FUTURE.

WITI FastTrack
Women Advancing Technology

Check out our WITI FastTrack Supplement today



If organizations want to flourish in the global economy, leaders need to nourish their employees. Our Women in Technology International (WITI) FastTrack coverage will cover the trends and techniques of leading companies around the United States. If you're interested in a top IT environment offering first-class treatment, check out WITI FastTrack. The list below offers just a sample of the exceptional employers featured in this supplement.

- *AOL Time Warner*
- *Capital One*
- *Mercury Computer Systems, Inc.*
- *Raytheon*

For more information on WITI FastTrack, please call Janis Crowley at 1-800-762-2977 ext. 7607, or email at janis_crowley@itcareers.net.

Web Programmer. Within Technology Department, Internet Development group is responsible for development of both JNL Internet and Intranet sites, and associated application development. Web Programmer functions as a mid-level technician working on moderate to complex work requests.
As a member of project team, responsible for application design/analysis; developing project plans; coding, testing, documenting all code; and maintaining and upgrading existing applications. May interface with customers to assist in the implementation and solution design of work requests. Must code, debug and test application programs utilizing JAVA and web-based programming tools. From a set of written specifications under general guidance of Project Manager or Senior Team Member, must be adaptive to the use of new software aids and programming techniques as acquired and adopted within IT in order to achieve the goal of providing world-class corporate web site. Minimum requirements include Bachelor's degree or equivalent in education and/or experience plus 2 years experience in job offered or related occupation of Programmer, Systems Analyst, Application Developer, Software Engineer, Network Administrator or combination of above. Experience must include at least two years experience in relational databases, one year experience in application development utilizing JAVA and one year of experience in at least 3 of the following web programming tools: Rational Rose, JAVA Servlets, JSP, XML, UML, WebSphere, EJB, and JAVA Beans. Must pass CPAB (Computer Programming Aptitude Battery) exam, required by employer of all applicants. Please mail resumes to Jackson National Life Insurance Company, attn: Destiny Southwell, One Corporate Way, Lansing, Michigan 48915.

Infinite Computing Systems a Cedar Rapids, IA company is seeking qualified computer professionals for our growing team. Current available positions must meet the following minimum requirements. All positions require at least a Bachelors degree (foreign Bachelor degrees are acceptable):

- At least 1 yr exp as a computer professional, including at least 1 yr exp in Harris transformer, Expeditor, IDMS, DB2, UNIX, Fortran, C++, File Aid, and IMS DB/DC.
- At least 5 yrs exp as a computer professional, including not less than 1 yrs exp. in EasyTreive, QMF, MF-CICS, MF-COBOL.
- At least 5 yrs exp as a computer professional, including 5 yrs exp. in C, C++, VC++, Oracle, GUI, SOL Server and at least 2 yrs exp leading and managing professionals in developing, installing, and maintaining computer applications and systems.
- At least 5 yrs exp as a computer professional, including not less than 2 yrs exp in Rational Rose, DB2, EJB, Java, Websphere, Visual Age.
- At least 2 yrs exp as a computer professional, including 2 yrs exp in MS-Translation Server, Visual basic, Developer2000, MAGIC, Oracle, and SQL Server and at least 6 mos. experience in Dream Weaver, PowerBuilder and Sybase.
- At least 3 yrs exp as a computer professional, including 2 yrs exp in SAP, Java, HTML, ABAP, BEA Weblogic, and 1 yr exp in Webmethods B2B Server and Enterprise Server, EDI, and Cognos Power Play.
- At least 2 yrs exp as a computer professional, including 2 yrs exp in Formware, ICR/OR recognition technology, Imaging, Document management, File Net, PC-Docs, Visual Basic, Java, and SOL Server.

Systems Analysts responsible for design and development of software applications for the company and its clients. Help clients in state-of-art internet and client server technologies under Windows NT using VB Script, COM, ActiveX and JavaScript. Responsible for writing code in Visual Basic and Java using Object Oriented Programming Techniques. Use Object linking and embedding technologies and ActiveX to make the applications reusable. Must have a Bachelor's degree in CS or foreign degree equivalent. Must have 2 yrs of exp, in the job offered. Salary: Competitive. Send resume to: Raj Shekaran Software Research Assoc 70 Mansell Ct. Ste. 100, Roswell, GA 30076.

Software Engineers (St. Louis, MO): Under close supervision of project manager, will develop large-scale web-based management information system applying object-oriented programming technology using C/C++, Java, JSP and EJB in a three-tier client/server environment on Window/Unix platforms; develop detailed technical design specification according to Rational Unified Process (RUP) for further developing applications in Weblogic Server using XML, RMI, SOL and Oracle; interface Oracle to Java applications through JDBC and Swing; evaluate interface between software applications and operational /performance requirements of overall system; develop client side GUI screen using Jbuilder, JavaBeans and JavaScript; and perform troubleshooting and system tuning using system traces and debugging tools. Require B.S or the equivalent in Comp.Sci, Math. Engr. MIS or in a closely related field. Competitive salary. Full-time; Mon-Fri. Resume to Crawford Group, Inc. at spiatt @erac.com. No call/EOE.

divine, Inc., computer software applications developer and consultancy, has the following positions available: Consultants, Senior Consultants, Software Engineers Senior Software Engineers, Systems Engineers, Application Integration Engineers, Technical Training Specialists, Development Team Leads, Managers, Directors. Openings available in the following locations: Santa Monica, CA, Denver, CO, Fairfield, CT, Norcross, GA, Chicago, IL, Lisle, IL, Columbus, OH, St. Louis, MO, Burlington, MA. Permanent U.S. work authorization required. Applicants should authorization required. Applicants should indicate position and location you are applying for and forward resume to divine, Inc. Attn: DK 1, 333 Warrenville Rd., Lisle, IL 60532 or by fax addressed to DK 1 at: 630-799-0060. EOE.

Seeking qualified applicants for the following position in Memphis, TN: Senior Programmer Analysts: Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: bachelor's degree or equivalent* in computer science, MIS, computer systems engineering or related field plus 5 years of experience in systems /applications development. Experience with client/server technology or object-oriented analysis; C, C++, Smalltalk, Visual Basic or Java; and CORBA also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Sibi George, FedEx Corporate Services, 1900 Summit Tower Blvd., Suite 1400, Orlando, FL 32810. EOE M/F/D/V.

Computers: System Project Directors needed: Plan, direct and coordinate systems project delivery; Lead team/s on complex systems projects; Provide guidance on troubleshooting technical issues to enhance system functions. Experience must include two years working with Mainframe, COBOL and ASP. Requires MS /BS degree or equivalent and/or relevant work experience. Mail resume, references and salary requirements to: Investor's Bank & Trust, 200 Clarendon Street, Boston, MA 02116.

Seeking qualified applicants for the following position in Memphis, TN: Senior Programmer Analyst. Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree* in computer science, MIS, engineering or related field plus 5 years of experience in systems/applications development. Experience with UNIX Shell programming; C and/or C++; and SOL also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Sibi George, FedEx Corporate Services, 1900 Summit Tower Blvd., Suite 1400, Orlando, FL 32810. EOE M/F/D/V.

DATAWAREHOUSING CONSULTANT Analyze customer reqts, identify & implement solns. Participate in dvlp & pre-sales events. B.S. Info Systems, Comp Science or equiv + proficiency in Java, JSP, JavaScript, Servlets, Visual Basic. Competitive Salary. Send resume to: Solution Builders, 1000 Abernathy Rd. NE, #175, Atlanta, GA 30328

Computer
ARINC, a leading provider of communications, information technology, and system engineering, has an opening for a Staff Principal Engineer with Animator experience in our Marina del Rey, CA office. The individual will be responsible for working as a chief architect of graphical interface, networking and Java. Specifically, the individual will lead efforts, which utilize the Animator product. Requires a minimum of five years of experience in the job duties offered. Must have technical and working knowledge of Animator, as well as programming experience in Java, C++, C, Windows NT/2000, and UNIX operating systems. Visit us online to apply at: www.arinc.com/careers. Please refer to this ad when applying. Equal Opportunity Employer M/F/D/V.

CSI (Comprehensive systems, Inc.) is looking for IT professionals (Programmer/System Analyst, DBA, Software/Project Engineers, OA. Candidates must have BS plus 1-yr exp. Skills in CICS, COBOL, DB2, HTML, VBScript, Java, Websphere preferred. Apply to hr@csicos.com. EOE.

Software Engineers wanted by 7 Hills Tech to perform: design, develop & implement client/server & web-based applications. Qualified applicants must have BS. Exp. using OOA/OOD in Java, J2EE, Oracle required. Send resumes to employ@7hillstech.com. EOE.

PeopleSoft Administrator and/or Oracle DBA - Radio Free Europe /Radio Liberty, located in beautiful Prague, Czech Republic, is seeking an Applications Development Specialist. Primary responsibilities will be to support Human Resource and Financial operations. Hands on Oracle DBA or Peoplesoft skills are a must. Good pay and benefits, interesting company. Intrigued? Look at www.rferl.org/welcome/english /jobs/EOE M/F/D/V

Sr. Billing Software Eng. Analyze, design, code usage record collection of interfaces b/w telephony switching equipment & existing NT-based BCC software product. 3+ years in development VC++ /MFC database applications, SOL Server preferred. Extensive knowledge of cellular, GSM /PCS, wireline and CIBER/TAP, as well as switch/tape interfaces. 9-5 40hrs/wk 85K Rancho Cucamonga, CA. send cv hr@arisinc.com. 888.274.3995

SBI is looking for the following positions for its offices in Houston, TX, San Francisco, CA, Warren, NJ, Salt Lake City, UT and Portland, OR: Programmer Analysts, Technical Architects, Technical Consultants, Business Strategists, Systems Analysts, Software Engineers. resumes by email or fax only to HR, SBI 2825 East Cottonwood Parkway, Suite 480, Salt Lake City, UT 84121: careers@sbiandcompany.com; Fax (801) 733-3201.

Programmer Analyst for Natick, MA office to plan, develop, test and document computer programs, to analyze, review and alter program to increase operating efficiency or adapt new technologies. Full time position M-F offers good salary. Applicants with 4 yrs experience & working knowledge of Oracle, SIS/Compass, SPF, Lotus notes, Micro focus Animator, PVCS, Unix and SQL, Developer/2000/6 and COBOL, send resumes only to Mario Cabrera, Human Resources, FDP Corporation d/b/a Sun Gard Insurance Systems 2000 S Dixie Hway Miami FL 33133.

Programmer/Analyst (Jacksonville, FL): Design and develop software on Java, VB, JSP using Oracle, CORBA with Visibroker / Orbix, Java Socket Programming, Weblogic, Websphere and JBoss Server w/ Tomcat, iPlanet, JRun, etc. Req. B.Sc. or its foreign degree equivalent based on education and/or experience in C. Sc. Maths. or other science field + 2 yrs. exp. in job described. Resume to: HR Manager, Software Services & Resources, Inc., 3574 Old Milton Pkwy, Alpharetta, GA 30005

Senior Principal Engineer - CCBS; Dulles, Virginia: Provide technical customer support for US & international users of the five instances of the Customer Care & Billing System (CCBS) & its interfaces to the relevant mediation devices & switches. Analyze & determine which system, database, business process or interface has caused the problem & provide solutions. Create scripts to fix or monitor the databases. Provide guidance & recommendations regarding business practice modifications. Work with switch & mediation device engineers & technical users world-wide to test & implement CCBS. Apply knowledge of Oracle and UNIX systems, GUI, switch & mediation device databases & all of the business processes of the billing, invoicing and provisioning systems. Bachelor's degree or equivalent in Electrical Engineering or a closely related field.& 6 yrs exp. in the position offered or in a systems engineering position two yrs of which must have been in the telecommunications industry. 6 yrs exp. must include at least two yrs exp with switch protocols, mediation devices, oracle databases, telecom products & billing systems & billing product development. 40 hrs per wk, domestic & int'l travel required (25%). Send resume to Carrie Carr-Main, ORBCOMM, 21810, Atlantic Boulevard, Dulles, VA 20166

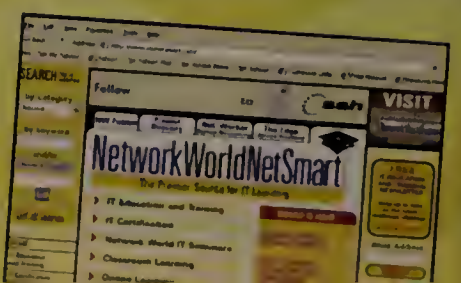
Trusted by more hiring managers than any IT space in the world.

IT careers.com

Become a Microsoft Windows 2000 Security Expert.

It's easy. Just point, click and choose the format that works best for you:
•CD-ROM •Web-Based •Hands-On •Virtual Classroom

Visit NetSmart today at www.nwnetsmart.com



Lionbridge Technologies Inc. has two openings in its Framingham, MA office for Software Development Engineers who have a Bachelor's degree or equivalent in Computer Science, Systems Engineering or a related field and 2 years of experience programming in Java using UML design techniques on Windows and Unix, 2 years of RDBMS experience with Oracle and MS SOL, 1 year of experience in Internationalization, and experience with complete development lifecycle. (Experience can be concurrent). Interested candidates should send resume to Ref. SLTL-BP, Maria Lopes, Human Resource Manager, Lionbridge Technologies, Inc., 492 Old Connecticut Path, Framingham, MA 01701.

VegaStream, Inc., located in Dublin is seeking F/T expd. Manager of Product Support to research, design, and developing of computer software systems, in conjunction with hardware product development. Analyze software requirements to determine feasibility of design within time and cost constraints. Consult with hardware engineers and other engineering staff to evaluate interface between hardware and software, and operational and performance requirements of overall system. Formulate and design software system, using scientific analysis and mathematical models to predict and measure outcome and consequences of design. Bachelor's degree in Computer Science, competitive salary. Fax resume to Gina (561) 995-6027.

Syst Analyst (Oakbrook, IL) Analyze user req'ments, develop project process flow, program specifications, develop tests & conversion plans, consult & advise tech personnel on applic procedures, plan & prep tech reports, memoranda. MS in Comp Sci/Comp Applic/Eng & 1 yr exp w/Unix, C, Informix. $69,000/yr, 40 hrs/wk, 9a-5p. Applicts must show proof of legal authority to work in US. Res to IL Dept of Empl Security, 401 South State St -7 North, Chicago, IL 60605. Attn: L. Jackson, Ref # V-IL 26357-J. An employer paid ad. NO CALLS * Send 2 copies of both res & cvr ltr.

Computer Support Specialist: For provider of IT& systems, provide tech assistance to programmers; customize, train, support users of accounting apps, MS office; hardware & network setup & support; web design. Req's: M.S. in Comp Sci or related field. 1 yr exp in job offered or 1 yr exp as Software Eng. Exp must incl software dev, network & database dev & software installation & troubleshooting & user support. Prof in MS Office, MS Visual Basic, Sybase, Oracle & MS Access. 40 hrs/wk. Send resume to Terry Bauman, 1323 Little Mountain Rd., Bethel, PA 19507.

Sr S/W Engineers Lead teams to design/develop s/w appls using SAP, ABAP/4, VB, Oracle, Dev 2000 and Windows; integrate computer-aided scheduling, dispatch, outage mgmt, work planning etc; conduct data conversions, archiving, customization while administering SAP systems; gather/document reqs; train team & clients. Require MS in CS/Math/ Engg(any branch) & 3 yrs exp. Will also accept BS or foreign equiv in any of above & 5 yrs of relevant progressive exp. Travel involved. High salary f/t. Resumes to HR, Smartsoft International 4898 South Old Peachtree Road, Suite 200, Norcross, GA 30071

PDM ("Product Data Management") Implementation Consultant, working under the close supervision and continued monitoring of the Group Leader, will perform technical and consulting activities including PDM ("Product Data Management") system design and implementation. Will assist in facilitating customers' implementation activities in the area of foundation building, customer education and education planning, and project planning and execution. Will execute product implantation tasks, project level implementation strategies, and participate in program activities. Will also aid in user learning curve compression, mentor implementation associations, and document methodologies and case studies. Requires Bachelor's Degree in Computer Science, Mechanical Engineering, MIS, Electrical Engineering, Physics, Math or the equivalent, and one year of experience in Job Offered or one year of experience in PDM consulting or PDM development, OR, in the alternative, a Master's degree and zero (0) year's experience. Salary: $64,207/yr; 40 hrs/wk; M-F 9:00a.m.-5:00p.m. Job in Lisle, IL. Applicants must show proof legal authority to work in the U.S. Submit resume to: ILLINOIS DEPARTMENT OF EMPLOYMENT SECURITY, 401 South State- 7 North, Chicago, Illinois 60605, Attention: Joanne Breaux, Reference # V-IL 33262-N AN EMPLOYER PAID AD. NO CALLS-SEND 2 COPIES OF BOTH RESUME & COVER LETTER.

Network Engineer. 40 hrs/wk. 9:00 a.m. - 5:00 p.m. Bloomington, IL. Install, configure and trouble shoot computer systems networks. Provide installation, service and support of Netware, NT and Exchange servers and installation of CISCO switches. Required: 2 yrs exp in job offered, as systems engineer, or related (exp must include 2 yrs providing installation, service and support of Netware, NT and Exchange servers and installation of CISCO switches); Certification as CISCO Certified Network Professional (CCNP); and Certification as CISCO Certified Internetwork Expert. NO PHONE CALLS. Resumes to: Logical Networks, Inc., Kim Slappy, 1750 South Telegraph Road, #300, Bloomfield Hills, MI 48302.

Synergy has openings for IT professionals or engineers. Oualified applicants must have BS/MS with 1-year experience. Strong background in TCP/IP Suite, Unix, DB2, Oracle, VB, SOL, IIS, Window NT and XML is plus. Send resumes to hr@synergycom.com. Travel is required. EOE

OA Engineer/Analyst/IT professionals wanted by E-Comlogics. Work in Pittsburgh, PA. Minimum requirement is BS in comp science or engg. plus 1-yr OA exp. using automation tools/script. We are small, but very stable. Please apply at resume@ecomlogics.org. EOE

ExImWare, a s/w & service company for global agriculture trade markets, is looking for Business /System Analysts & S/W Engineers. Min. BS with 1-yr related exp. required. Key skills: s/w design, dev. and testing, proj mgt., OO prog., java, and xml. Send resumes to: careers@eximware.com.

Anacon has openings for IT professionals (software engineers, programmer/system analysts). Candidate must have BS/MS. One-year exp. is a minimum. Skills in areas of C, COBOL, Oracle, SOL, Sybase, DB2, PeopleSoft, SOA, VB are plus. Contact anacon@anacon.com. EOE.

Software Engineer, Merrimack. Research, design & dev. comp softw. systems, in conjunction w/ hardware product devpnt. Consult w/ hardware eng'rs and other eng staff to evaluate interface betw hardware & soft., operational & performance req"s of overall system. Provide tech. guidance on client projects. Will use Solaris, Unix, Linux, windows 2000 server, NT, Java, Perl, AWK, Cobol, C, C++, Visual C++, Borland C++, Oracle Dev 2000, Oracle Reports, Crystal Reports, Clear Ouest, Rational Clear Case, Rational Robot, VB, ASP, SOL, Oracle, MS Access, XML, HTML, UML, Javascript, VB Sript, Shell Script, COM, COM+, DCOM etc. Will accept Bach"s in CS, Eng, MIS, Math + 5yrs of exp as prog anal/syst anal. Or Mast"s + 2yrs exp as a prog anal/syst anal. Req. $ 85,000/hr, 40hrs/wk, 9:00am to 5:00pm. Pls. send 2 copies of resume/letters of application to: Job Order # 2002-328, PO Box 989, Concord, NH 03302-0989

SOFTWARE ENGINEER: Knowledge of IBM AS/400 midrange systems and Honeywell Bull mainframe systems on which key business systems are based. Knowledge in both VB6 Enterprise development software and Interdev Web development software to design client front ends. Knowledge in Oracle database technology. Job duties are to Analysis of current procedures and problems to refine and convert the data to programmable form; determine output requirements; study existing systems to evaluate effectiveness; upgrade systems presently in use; develop test and implement new software; observe functioning of newly implemented system and programs for trouble areas; correct systems/programs as necessary. Requires High School in sciences with 4 years of software development experience. 40 hours per week at $ 60,000 per year. Please send resume to Case # 200111215, Labor Exchange Office, 19 Staniford St., 1st floor, Boston, MA 02114.

Software Engineer, Merrimack. Research, design & dev. comp softw. systems, in conjunction with hardware product devpnt. Consult with hardware eng'rs & other eng staff to evaluate interface betw hardware & soft., operational & performance req's overall system. Provide tech. guidance on client projects. Will use Solaris, Unix, Linux, windows 2000 server, NT, Java, C, C++, Visual C++, Oracle, HTML, Java Script, Vb Script, Shell Script, MS SOL Server, ASP, Clear Ouest, Clear Case, Informix. Bach's in CS, Math or MIS plus 5yrs as systems analyst /prog analyst, Will accept Mast's + 2yrs exp as a prog anal/syst anal. Req. $ 85,000/hr, 40hrs/wk, 9:00am to 5:00pm. Pls. Send 2 copies of resume/letters of application to: Job Order # 2002-329, PO Box 989, Concord, NH 03302-0989

Software Developer
Design customized software solutions based on a client's needs. Must have Bachelors Degree in Engineering or Computer Science or in a related field & 18 months exp. or 18 months exp. in a related position w/ability to use: SOL & AS/400.
Willing to travel and relocate across the U.S.

40.0 hrs./wk 8:00 AM – 5:00 PM $64,000/Yr.

Applicants send cover letter and resume to:

SRA Systems Limited
1945 Cliff Valley Way
Suite 270
Atlanta, GA 30329
Attn: K. Markandan

The Fifth National HIPAA Summit



The Leading Forum on Healthcare Privacy, Confidentiality, Data Security & HIPAA Compliance

The Most Important Conference You Will Attend This Year on the Health Insurance Portability and Accountability Act

October 30 - November 1, 2002
Baltimore Waterfront Marriott • Baltimore, MD

Call 800-684-4549
or visit our website at www.hipaasummit.com

CONTINUING EDUCATION CREDITS: ACHE • AAPC • ACPE • AHIMA • ANCC
CISSP/SSCP • HCCB • MCLE • NASBA • ACMPE

13th Annual Conference & Career Expo

NSHMBA NATIONAL SOCIETY OF HISPANIC MBAS



Things are heating up in Phoenix with the *13th Annual NSHMBA Conference & Career Expo* around the corner! With over 200 corporate sponsors, as well as, highly esteemed business executives from Fortune 500 companies, there is something for everyone!

With educational plenary sessions, dynamic seminars, and non-stop networking opportunities, the conference provides an excellent forum to enhance your leadership skills, network effectively and continue to make immeasurable differences in your career.

With all its splendors, Phoenix awaits the best and brightest Hispanic professionals to immerse themselves in the greatest Latin professional gathering on the planet— **don't miss out!**

PHOENIX

See You In Phoenix, Arizona November 7-9 **2002**

NSHMBA
1303 Walnut Hill Lane
Suite 100
Irving, TX 75038
Phone: 214-520-8388
Fax: 214-596-9375
www.nshmba.org

For more information please visit www.nshmba.org

Photos courtesy of Jessen Associates for the Phoenix Convention Center & Visitor's Bureau

Sales Offices

Carol Lasker, Associate Publisher/Vice President
Jane Weissman, Sales Operations Coordinator
Internet: clasker, jweissman@nww.com
(508) 460-3333/FAX: (508) 460-1237

New York/New Jersey
Tom Davis, Associate Publisher, Eastern Region
Elisa Della Rocco, Regional Sales Manager
Aimee Jacobs, Sales Associate
Internet: tdavis, elisas, ajacobs@nww.com
(201) 587-0090/FAX: (201) 712-9786

Northeast
Donne Pomponi, Regional Sales Manager
Kathryn Zinn, District Manager
Caitlin Horgan, Sales Assistant
Internet: dpomponi, kzinn, chorgan@nww.com
(508) 460-3333/FAX: (508) 460-1237

Mid-Atlantic
Jacqui DiBianca, Regional Sales Manager
Marta Hagan, Sales Assistant
Internet: jdibian, mhagen@nww.com
(610) 971-1530/FAX: (610) 975-0837

Midwest/Maryland
Eric Danetz, Senior District Manager
Aimee Jacobs, Sales Associate
Internet: edanetz, ajacobs@nww.com
(201) 587-0090/FAX: (201) 712-9786

Central
Dan Gentile, Midwest Regional Director
Gracie Vela, Sales Assistant
Internet: dgentile, gvela@nww.com
(512) 249-2200/FAX: (512) 249-2202

Northern California
Sandra Kupiec, Associate Publisher, Western Region
Miles Dennison, Regional Sales Manager
Seen Weglage, Senior District Manager
Teri Whitehair, Office Manager/Exec. Asst.
Berit Einsiedl, Sales Assistant
Internet: skupiec, mdennison, sweglage, twhitehair beinsiedl@nww.com
(650) 577-2700/FAX: (650) 341-6183

Northwest/Rockies
Karen Wilde, Regional Sales Manager
Lera Greenberg, Regional Sales Manager
Kim Gaffrey, District Manager
Internet: kwilde, lgreenberg, kgaffrey@nww.com
(650) 577-2700/FAX: (650) 341-6183

Southwest
Becky Bogart Randell, District Manager
Angele Norton, Sales Assistant
Internet: brandell, anorton@nww.com
(949) 250-3006/FAX: (949) 833-2857

Southeast
Don Seay, Regional Sales Manager
Ceitlin Horgan, Sales Assistant
Internet: dseay, chorgan@nww.com
(404) 845-2886/FAX: (404) 250-1646

Custom Publishing
Shaun Budka, Custom Media Solutions Manager
Internet: sbudka@nww.com
(508) 460-3333/FAX: (508) 460-1237

Fusion
Alonna Doucette, Vice President Online Development
James Kalbach, Director, of Online Sales
Stephanie Gutierrez, Online Account Manager
Debbie Lovell, Online Account Manager
Kristin Baker, Seles Operations Manager
Internet: edoucette, jkalbach, sgutierrez, dlovell, kbaker@nww.com
(610) 341-6025/FAX: (610) 971-0557

MARKETPLACE
Response Card Decks/MarketPlace
Richard Black, Director of MarketPlace
Karima Zannotti, Senior Account Manager
Enku Gubeie, Senior Account Manager
Amie Gaston, Account Manager
Sharon Stearns, Sr. Media Dev. & Operetions Mgr.
Chris Gibney, Sales Operations Coordinetor
Internet: rblack, kzannott, egubaie, egaston, sstearns, cgibney@nww.com
(508) 460-3333/FAX: (508) 460-1192

IT CAREERS
VP/General Manager, Janis Crowley, East Regional Manager, Deanne Holzer, Midwest/West Regional Manager, Laura Wilkinson, Operations Director, Donna Kent, Advertising Coordinator, Leilani Lopez, Sales Support, Tina Silveire, Sales Support, Nikki Wilson (800) 762-2977/FAX: (650) 286-2770

Network World, Inc.
118 Turnpike Road, Southborough, MA 01772
Phone: (508) 460-3333

TO SEND E-MAIL TO NWW STAFF
firstname_lastname@nww.com

Evilee Thibeault, CEO/Publisher
John Gallant, President/Editorial Director
Eleni Brisbois, Administrative Planning Manager

FINANCE/BUSINESS SERVICES
Mary Fenning, Vice President Finance
Paul Mercer, Finance Manager
Mary Kaye Newton, Billing/AP Coordinator
Frank Coelho, Senior Manager, Business Services
LisaThompson, Business Services Administrator
Mark Anderson, Business Services Supervisor
Kevin McMillen, Business Services Coordinator

HUMAN RESOURCES
Elizabeth Price, Director of Human Resources
Eric Cormier, Human Resources Representative

MARKETING
TerryAnn Croci, Senior Director of Marketing
Barbara Sullivan, Senior Research Analyst
Nancy Petkunas, Prod. Marketing Mgr. Events/Online
Judy Schultz, Senior Graphic Designer
Cindy Panzera, Graphic Specialist

GLOBAL PRODUCT SUPPORT CENTER
Nancy Parquette, Sr. Production Marketing Manager Print/GPSC

ADVERTISING OPERATIONS
Karen Wallace, Senior Director of Advertising Operations
Maro Eremyan, Advertising Coordinator
Veronica Trotto, Advertising Coordinator
Cara Peters, Direct Response Ad Coordinator

PRODUCTION
Ann Finn, Senior Production Director
Greg Morgan, Senior Production Manager
Mike Guerin, Senior Print Buying Supervisor
Jami Thompson, Ad Traffic Coordinator

CIRCULATION
Richard Priante, Senior Director of Circulation
Darcy Beach, Circulation Operations Manager
Bobbie Cruse, Subscriptions Manager
Mary McIntire, Senior Marketing Specialist

RESEARCH
Ann MacKay, Research Director

DISTRIBUTION
Bob Wescott, Distribution Manager/(508) 879-0700

IDG LIST RENTAL SERVICES
Paul Capone, Account Executive
P.O. Box 9151, Framingham, MA 01701-9151
(800) 343-6474/(508) 370-0825, FAX:(508) 370-0020

SEMINARS AND EVENTS
Robin Azar, Vice President of Events
Michele Zarella, Director, Events Business Development
Sandra Gittlen, Events Editor
Betty Amaro-White, Event Finance Manager
Neal Silverman, Senior Director of Event Sales
Andrea D'Amato, Sales Director/Strategic Partnerships
Kristin Ballou, Senior Event Sales Manager
Sandy Weill, Event Sales Manager
Maureen Riley, Event Sales Manager
Judy Tyler, Sales Operations Specialist
Debra Becker, Dir., Marketing & Audience Development
Kristin Wattu, Senior Marketing Specialist
Sean Landry, Web Producer
Timothy Johnson, Marketing Coordinator
Jill Keaveney, Senior Event Planner
Tim DeMeo, Event Coordinator

ONLINE SERVICES
Alonna Doucette, V.P., Online Services
Hillary Freeley, Director, Online Audience Development
Deborah Vozikis, Online Production and Design Manager
Adam Gaffin, Executive Editor, Online
Melissa Shaw, Managing Editor, Online
Jason Meserve, Multimedia Editor
Sheryl Hodge, Online Copy Chief
Christopher Cormier, Web Producer

INFORMATION SYSTEMS
W. Michael Draper, V. P. Systems & Technology
Anne Nickinello, Director of New Media Services
Tom Kroon, Senior Software Engineer/Architect
William Zhang, Senior Software Engineer
Rocco Bortone, Senior Network Manager
Peter Hebenstreit, Network Specialist
Kevin O'Keefe, Systems Support Manager
Brian Wood, Senior Systems Support Specialist
Puneet Narang, Manager of Database Technologies
Pam Gertsios, Database Specialist



IDG
Patrick J. McGovern, Chairman of the Board
Pat Kenealy, CEO

IDG, the world's largest [illegible] information and the leading [illegible] information services and information technology [illegible] computer publications in [illegible] countries. Ninety million people read one or more IDG publications each month. For more information, visit IDG's Web site at www.idg.com.

NetworkWorld

Editorial Index

A
Akamai Technologies 30
Ascendent Telecommunications 17
Assistance & Resouces for Computing 36

B
BellSouth 27
BMC Software 6

C
Cable & Wireless 6, 30
Cereva Networks 6
Check Point Software 15
Cisco 10
CommWorks 31
Convergent Networks 31
Conxion 30
Corio 27

D
Dell 1

E
EMC 6
e-Security 21
Excelon 21
ExpertCity 18

H
Handspring 26
Hewlett-Packard 6

I
IBM 1

K
KaZaA 18

M
Microsoft 1, 6
Mirror Image 30

N
netForensics 21
NetIQ 21
Network Appliance 8
New Edge Networks 6
Nortel 17

P
Peregrine Systems 6
Prisa Networks 6

Q
Qwest Cyber Solutions 27

R
R.H. Donnelley 27
Radware 17
Remedy 6

S
Sanrise 6
SBC Communications 6, 27
ServGate Technologies 21
Siebel Systems 6
Speedera Networks 30
Sprint 26, 27
Symantec 15

U
United Devices 62

W
WaveSmith Networks 31
Web Office 18

X
XCache Technologies 16

Advertiser Index

Advertiser	Page #	URL
American Power Conversion	51	www.apc.com
Avaya	11	www.avay.com/nowtwo
Avaya	12, 13	www.avaya.com/yes
Avocent Corp	49	www.avocent.com
Computer Associates	4	www.ca.comarcserver/replace
Covad Communications	25	www.covad.com/nw/offer
Cyclades Corp	53	www.cyclades.com
Dantz Development	34	www.dantz.com/v6
Dell Computer Corp	7	www.dell.com/switch
Elron Software	22	www.internetmanager.com/trywebinspector
Equinox Systems Inc	56	www.equinox.com
Finisar	28	www.finisar.com/testdrive
Global Technology Associates	55	www.gta.com
Hewlett Packard	19	www.hpprocurve.com/lifetime
IBM	32-33	www.ibm.com/eserver/nintendo
IBM	47	www.ibm.com/websphere/integrate
IBM	64	www.ibm.com/server/i890
Intel Corp	9	www.intel.com/go/desktopgig
Learnkey Inc	55	www.learnkey.com
Mercury Interactive Corp	15	www.mercuryinteractive.com/btoevents
Microsoft Corp	2,3	microsoft.com/enterprise
Mier Communications Inc	16	www.miercom.com
NetGear	63	www.netgear.com
Network Instruments LLC	52	www.networkinstruments.com
Network Technologies	56	www.nti1.com
Radware	24	www.radware.com
Recortec Inc	54	www.recortec.com
Rose Electronics	52	www.rose.com
Server Technology	54	www.servertech.com
Shoreline Communications Inc	23	http://savings.goshoreline.com
SilentRunner	54	www.silentrunner.com
Sybase Inc	20	www.sybase.com
Tivoli	45	www.ibm.com/tivoli/unexpected
Tripwire	29	http://networld.tripwire.com
VCON	15	www.vcon.com
Veritas Software	26	www.veritas.com
Wave Wireless Networking	50	www.wavewireless.com
Western Telematic Inc	50	www.wti.com
World Data Products	56	www.wdp.com

Network World Fusion - www.nwfusion.com

AT&T
Adtran
Agilent Technologies
Akamba
American Power Conversion
Appian Communications
Blue Arc
BoldFish
BoostWorks
Brocade
Business Layers
Byte and Switch.com
Cisco Systems
ClickArray Networks
Compaq
Computer Associates International
Connectix
DLTtape
Ecora
Expertcity
F5 Networks
FineGround Networks
Fireclick, Inc
Fluke Networks
Global Technology Associates, Inc
IBM
InteQ
Mangosoft, Inc
McData Corp
Mercury Interactive
Mirapoint
mWired
NSI
NetIQ Corp
NetQoS
Netscreen
Network Associates
Nokia
Northern Parklife
Novell
Opelis Software
Opticom, Inc
Peregrine Systems, Inc
Peribit Networks
PlateSpin
Proxim, Inc
Qwest
Radware
Raxco
Redline Networks
Sangoma
Siemens
Silverback
Space Design Technology
SSH Communications
Stalker Software
Stardust
Sun Microsystems
Sybase
Sygate Technologies, Inc
Telogy Networks, Inc
UltraDNS
VNCI
Vilera
WaveSmith Networks
Websense
Wintenals
WinterRed Software
Zix

These indexes are provided as a reader service. Although every effort has been made to make them as complete as possible, the publisher does not assume any liability for errors or omissions.

NetworkWorld seminars & events

Network World Seminars and Events are one and two day intensive seminars in cities nationwide covering the latest networking technologies. All of our seminars are also available for customized on-site training. For complete and up-to-date information on our current seminar offerings call a seminar representative at 800 643 4668 or go to www.nwfusion.com/seminars.



Publish your [illegible] in Network World. Order [illegible] of your editorial [illegible] Reprints make great marketing [illegible] and are available at guaranteed [illegible] and quantities. Contact Multimedia Management Services at [illegible] or E-mail [illegible]@reprintbuyer.com

Dell

continued from page 1

with an unknown in the switch market," says Gilbert Maldonado, IS manager at technology printing firm Capital Spectrum in Austin, Texas. "I looked around. I looked at Nortel, I looked at 3Com, and I looked at Cisco. I had it narrowed down to Cisco and Dell. The Dell switch was almost half the price, and it does everything I want it to."

It's customer thinking like that that has competitors such as 3Com and Cisco taking notice. Both recently ended reseller agreements with Dell, and Cisco for the first time pointed to Dell as a competitor in its annual report, listing the company better known for its PCs and servers alongside entrenched network vendors such as 3Com, Foundry Networks and Nortel.

The developments highlight that Dell, ranked ninth on the NW200 with roughly $32 billion in revenue in 2001, is successfully inching its way into the switching market. The company is buoyed by the direct sales, low-pricing approach it has used to disrupt things in every market it has entered since it was founded in 1984, analysts say.

"It shows they're clearly a threat and the competition knows it," says Brooks Gray, a senior analyst at Technology Business Research.

While Cisco has a stranglehold on the top end of the enterprise network market, it's the midmarket where Dell is focusing, a strategy that should unsettle companies such as 3Com, analysts say.

"Why would Dell do its own thing? Why would it not partner more with an existing vendor?" says Glenn Gabriel Ben-Yosef, president of Clear Thinking Research. "The only answer to that is that Dell believes it can succeed and do better than what exists out there, and that's a scary thing for an incumbent like 3Com."

With the Ethernet switch market flat — revenues for the market grew just 3% to $2.7 billion in the second quarter, according to a Dell'Oro Group report issued in August — it has created a buyers' market and a perfect entry point for a company like Dell to take advantage of standards and throw low-cost products into the mix.



Dell introduced its switches last fall with pricing as low as $10 per unmanaged 10/100M bit/sec port and $100 per Gigabit Ethernet port. IDC says that pricing for fix-configured Gigabit Ethernet switch ports has dropped from about $800 per port in 1999 to about $219 per port this year, still twice the price that Dell offers.

Dell, which partners with manufacturing firms such as Delta Technologies in Taiwan to create and build the switches, is committed to its low-cost message and last week dropped its switch prices another 7% to 33%. Pricing for the PowerConnect 3248 48-port, 10/100M bit/sec Ethernet switch with two Gigabit Ethernet ports and Layer 3 and Layer 4 awareness, for example, was slashed from $1,500 to $1,000.

Dell has introduced a total of nine Layer 2 switches under its PowerConnect brand since last fall, the most recent in June when it rolled out the PowerConnect 3248 and the PowerConnect 5224, both of which also offer Layer 3 awareness. Dell says those are its first switches to include enterprise-class features such as multilayer quality of service and advanced management.

The company also is trying to help drive the market for high-speed switches by building 10/100/1000M bit/sec adapters into its business PCs and servers.

Analysts doubt Dell success

And while analysts say they doubt Dell will have much luck or even try competing at the higher end of the switching market, Ulrich Hansen, senior manager of networking at Dell, says the PowerConnect switches are only a "first step." He says Dell will look at offering Layer 3 switches and modular, or chassis-based, switches down the road.

Analysts say they wouldn't be surprised to see Dell move further into wireless LANs (it already offers some products under its TrueMobile name) and even consider firewalls.

"The networking market provides a lot of opportunities to deliver great products, and we're taking it one step at a time," Hansen says. "But we will expand our offerings here."

Dell is looking at a number of avenues to expand in light of a PC market that has gone from bad to worse (IDC estimates the market will grow just 1.1% this year, compared with an earlier outlook of 4.7% growth). And while Dell was the lone PC vendor among the market leaders to increase U.S. shipments this year — increasing by more than 19% in the second quarter — it recognizes that PC revenues won't be enough to keep the company successful, analysts say.

Dell has diversified into servers and storage and recently announced its intent to enter the printer market. Analysts say the switching market is a natural extension for Dell, which can bundle standard switches with its server and computer products.

"Dell doesn't bet on cutting-edge technologies to pull them through. You're not going to see Dell sell IP telephony products. They're going to sell meat-and-potato switches," says Eric Goodness, principal analyst, Network Management Group, at Gartner. "They look at technology that's begun to mature."

But some business users question Dell's entrance into the market.

Jim Barry, CIO for the Boston Bank of Commerce, has been a Dell customer for about three years. He uses Dell servers and storage arrays, but says he wonders why the company would move into the switching market.

"Dell provides fantastic equipment at a good price, but I don't see enterprise networking as a defined core competency," he says. "I don't see why they want to be an also-ran in a market that's saturated."

Barry says Dell would do better maintaining its reseller relationships with established network vendors such as 3Com and Cisco. For its part, Dell says the end of those relationships will have little effect on its business.

"While we have been offering our customers 3Com and Cisco products, now that we have products in the same categories, we would, of course, prefer to sell our own products, and we've been doing that over the last year," Hansen says. "So the impact on our business by losing that preferred status as a reseller, it's not material."

While analysts say Dell still falls into the dreaded "other" category on their market share charts for switches, they agree Dell is making progress.

"I don't think this will go very far with large enterprises," says David Willis, vice president of global networking strategies at Meta Group. "But for a small- and medium-size business customer who's buying a few servers from Dell, why not buy a few switches, as well."

That was the thinking for David Bobzien, regional technology manager at commercial real estate firm Colliers International in Seattle.

Bobzien says he was somewhat hesitant about using Dell switches initially because they were so new to the market, but decided to take the gamble after having problems with switches from a larger vendor.

"We're an environment where all of our desktops and notebooks and servers are Dell, and the support that I've received from Dell has always been superior over any other manufacturer I've dealt with. So I thought this is a great chance, let's see if they can deliver service like they do with computer products," Bobzien says.

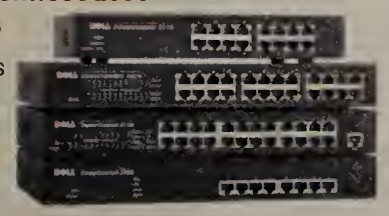
He says he hasn't been disappointed and is getting better support than he was with the larger vendor at about half the price. Plus, with desktops, notebooks, servers and switches all from Dell, he has just one place to call when there's trouble, he says. That's the type of customer Dell is looking for as it expands its products with additional network gear.

Network sampler

Dell has rolled out a variety of network gear since entering the market about a year ago.

Unmanaged Ethernet/Fast Ethernet PowerConnect 2000 series switches for small and branch offices

Ranging from 16-port 10/100M bit/sec Ethernet boxes with switching capacity of 3.2G bit/sec and a price of $120 to eight-port Gigabit Ethernet boxes with switching capacity of 16G bit/sec for $450.



Managed Fast Ethernet PowerConnect 3000 series workgroup and departmental switches

Featuring boxes that have 24 to 48 Fast Ethernet ports and two Gigabit Ethernet ports, switching capacity up to 13.6G bit/sec, remote monitoring andtraffic prioritization, and that start at $600.

Managed Gigabit Ethernet PowerConnect 5000 series departmental and backbone switches

Providing 10 to 24 ports with switching capacity of 24G bit/sec to 48G bit/sec, and starts at $1,200.



TrueMobile Wireless LAN products

Including routers, access points and adapter cards.

■ **Network World**, 118 Turnpike Road, Southborough, MA 01772-9108, (508) 460-3333.

Periodicals postage paid at Southborough, Mass., and additional mailing offices. Posted under Canadian International Publication agreement #40063800. Network World (ISSN 0887-7661) is published weekly, except for a single combined issue for the last week in December and the first week in January by Network World, Inc., 118 Turnpike Road, Southborough, MA 01772-9108.

Network World is distributed free of charge in the U.S. to qualified management or professionals.

To apply for a free subscription, go to www.subscribenw.com or write Network World at the address below. No subscriptions accepted without complete identification of subscriber's name, job function, company or organization. Based on the information supplied, the publisher reserves the right to reject non qualified requests. Subscriptions: 1-508-490-6444.

Nonqualified subscribers: $5.00 a copy; U.S. - $129 a year; Canada - $160.50 (including 7% GST, GST#126659952); Central & South America - $150 a year (surface mail); Europe - $205 a year (surface mail), all other countries - $300 a year (airmail service). Four weeks notice is required for change of address. Allow six weeks for new subscription service to begin. Please include mailing label from front cover of the publication.

Network World can be purchased on 35mm microfilm through University Microfilm Int., Periodical Entry Dept., 300 Zebb Road, Ann Arbor, Mich. 48106.

PHOTOCOPYRIGHTS: Permission to photocopy for internal or personal use or the internal or personal use of specific clients is granted by Network World, Inc. for libraries and other users registered with the Copyright Clearance Center (CCC), provided that the base fee of $3.00 per copy of the article, plus 50 cents per page is paid to Copyright Clearance Center, 27 Congress Street, Salem, Mass. 01970.

POSTMASTER: Send Change of Address to **Network World** P.O. Box 3090, Northbrook, IL 60065.

BPA INTERNATIONAL BEP TAG

USPS735 730

Copyright 2002 by Network World, Inc. All rights reserved. Reproduction of material appearing in Network World is forbidden without written permission.

Reprints (minimum 500 copies) and permission to reprint may be purchased from Reprint Management Services at (717) 399 1900 x124 or rtry@rmsreprints.com

Get more information online.
DocFinder: 2450
www.nwfusion.com

BackSpin Mark Gibbs



What the gov. should have done about security

Great fleas have little fleas
Upon their backs to bite 'em.
And little fleas have lesser fleas
And so ad infinitum.

— AUGUSTUS DE MORGAN

OK, now my cold is gone and my gloom has lifted and the world once again seems a happy and positive place. On the other hand, President Bush's Critical Infrastructure Protection Board draft report titled "The National Strategy to Secure Cyberspace" that I discussed last week still looks as useless as ever.

Having read further into it I feel like I shouldn't have wasted my time: Deep down inside, the "strategy" is just as shallow as it appeared to be.

As I suggested last week, the problem is that the whole thing has no teeth. The report manages to state the obvious with mind-numbing prose that outlines the problems as seen from 50,000 feet but fails to tell us what happens when we hit the ground.

So here's my suggestion: First, the government should set standards for security that it will adhere to across all branches. This has not been an area of competence. The list of hacked government Web sites and intrusions at federal and state online properties make it clear that the government's house is anything but in order.

So Earth to CIPB: Get the government sorted out! Develop a strategy that makes the federal government a model of how to conduct business securely and effectively in an online culture.

The strategy should be based on the technology to be used and best practices. The latter must be architected so that the best practices apply to managing an evolving technology base and dealing with interactions between people using the technology.

Underpinning the whole plan must be a system of audits that test and validate. Then we have assurance that you, our elected representatives, are doing what you said you would do with our money and that there is a positive result.

OK. That's the first part. Now let's turn that into teeth. If you want to do business with the government, you must adhere to the same principles. I bet that any government supplier, when faced with such a requirement, will bite the security bullet, so to speak, and clean up his act.

To make this really effective, if you, the private contractor, can deal with the government because you meet the requirements, then it is mandatory that whoever deals with you abides by and maintains the same standards.

If they don't meet those standards, then you, the private contractor that does meet the standards, will be considered unsecure and you can no longer work with the government. And audits will check you and your downstream business partners.

Now when it comes to consumers, the standards must be simpler but still effective. This will mean that if you, Joe Blow, want to do online banking you must meet certain standards for the bank to work with you. Nothing onerous, just basic security.

To make this work, the government will have to provide tax and other financial incentives for businesses to enable their consumers to be secure, because it is unreasonable to expect consumers to do that which has no obvious pay off.

We're simply trying to make security trickle down and using an economic stick to make it happen. And it is important that this strategy doesn't attempt to regulate the Internet.

We don't need Internet police and information superhighway driving licenses — such things would only to dampen Internet commerce and erode our constitutional rights even more than they have been.

The strategy must create secured relationships such that, when we need assurance that people are who they claim to be, we can get that assurance. Perhaps building a network of trust in our society is the most strategic view we could take.

So there we are, problem solved.

Simple questions to backspin@gibbs.com.



'NetBuzz News, insights, opinions and oddities

By Paul McNamara

Getting a grip on grids

United Devices CEO Ed Hubbard gets his back up a bit at the suggestion that the grid computing market has yet to lose the training wheels.

"I would disagree with you," Hubbard says. "We've got two of the largest drug companies in the world [GlaxoSmithKline and Novartis] deploying today. I don't know when a market happens, but that sounds like one of the leading indicators."

An encouraging sign, perhaps, and certainly validation of the technology's practicality, but a handful of high-profile customers does not lay to rest the question of whether grid computing eventually will become ubiquitous.

Even an evangelist such as Hubbard acknowledges the business climate is unfriendly today toward anything that hasn't been around the block a few times.

"It's a very risk-averse environment right now," he says. "The last thing you want to do is screw up something royally in an environment like this."

Hubbard makes a compelling case — on paper — that going with his company is anything but screwing up. One slide in his presentation contends that a 160-node United Devices enabled grid that would cost $40,000 can provide the same computing punch as a high-end IBM machine that goes for $2 million.

So why would anyone write that big check to Big Blue?

"That's the safe choice," Hubbard says. "[A grid] is the hero's choice, and in a risk averse environment there are a lot less heroes than there used to be."

United Devices is certainly trying to make it easier for heroes to step up.

While its MetaProcessor Platform that lets customers create their own in-house grids remains the company's bread and butter, United Devices plans to launch a service this quarter that will let customers tap into a 7,000-node grid that was built by an as-yet-unnamed Fortune 500 company partner.

This "partner grid" is intended to attract customers who might need access to this type of supercharged computing power from time to time, but lack the wherewithal to deploy their own grid in-house. It's also designed to allay the security concerns Hubbard says have been an insurmountable obstacle for public computing grids, including the 1.7 million-device grid that United Devices operates primarily for demonstration projects and the occasional commercial job.

The partner plan sounds promising.

Training wheels do come off.

Rudy to the rescue . . . again.

The man's resumé begins in law enforcement and ends in politics, while he's best known for having been the resolute public face of New York after Sept. 11.

So it might come as a bit of a surprise that Rudy Guiliani has hit the top of the charts as a keynote speaker at technology-related events.

Novell will become the latest to attempt to cash in on Guiliani's cachet when it hosts a Web-based conference Oct. 16 to plug its new Nsure identity-management initiative.

"His speech, 'Leadership in Difficult Times,' will be an insightful look into the qualities that inspire confidence and success," an e-mail from Novell promises. "These same qualities are at the heart of Novell Nsure."

Some marketer must have pulled a muscle making that stretch.

The strategy is an old one, of course. Get the customer's attention with a celebrity speaker and then slip in the sales pitch while the starlight is twinkling.

But are IT buyers really that easily awed? Seems unlikely.

Of course, using Guiliani has got to be a better bet than whatever Novell's been doing these past few years.

Make a speech of your own. The address is buzz@nww.com.

Wireless 802.11b, 11 Mbps



802.11b/DSL ProSafe Firewall



Access Point



PCI PC Adapter



Wireless PC Card

Network Through the air

with the greatest of ease ...and security ...and reliability.

If you want to extend your existing Ethernet network or set up a new network and want the assurance of security, easy installation, and reliable performance, look to NETGEAR® for wireless solutions. They make it possible to connect to an office network or to the Internet at home or on the road, providing a breath of fresh air over restrictive hardware solutions.

Consider our award-winning, 802.11b cable/DSL ProSafe Firewall (FM114P) if you're looking for the utmost in business-class security in a multi-functioning package. This super performer packs a router, 4-port 10/100 Mbps switch, print server, Wi-Fi certified access point and SPI (Stateful Packet Inspection) firewall in one mega-capable unit – a great investment.

Or you might want to try NETGEAR's award winning, standalone access point (ME102), which provides continuous, wireless connectivity to your Ethernet network. And with NETGEAR's wireless PCI PC Adapter (MA311) for desktop PCs, you can easily and affordably share your Internet connection among multiple PCs anywhere in and around your home or office – a boost to your productivity. Add a wireless PC card (MA401) to your laptop and enjoy the convenience of being mobile.

Take advantage of wireless networking that conforms to industry standards and is backed by 24x7 toll-free support. NETGEAR's Wi-Fi based 2.4 GHz 802.11b solutions make it possible, securely, easily, and reliably. To learn more, visit **www.netgear.com**.

PC Magazine · cnet Editors' Choice · Computer Test Singer · Editor's Choice · Wi-Fi · PRISM 2

Everybody's connecting™

NETGEAR®



RUNS YOUR BUSINESS. AND ITSELF.

@server



A winning team: High tech and low stress. Introducing the IBM @server iSeries™ 890. 32-way processor, twice the memory and I/O[1]. That's mainframe power. Dynamic logical partitioning, self-optimizing disk management and single-network sign-on. That's low-stress simplicity. So, like the entire iSeries line, the i890 couples high performance with ease. For a paper on how i890 can deliver mainframe power and simplicity to your business, go to **ibm.com**/eserver/i890. Raise your standards. Not your blood pressure.

@business is the game. Play to win.™

As compared to the IBM eServer iSeries 840. IBM, the e-business logo, eServer, iSeries and *e-business is the game. Play to win* are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. Other company, product and service names may be trademarks or service marks of others. © 2002 IBM Corporation. All rights reserved.